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PURDUE UNIVERSITY,

TENTH ANNUAL REGISTER.

LAFAYETTE, IND.

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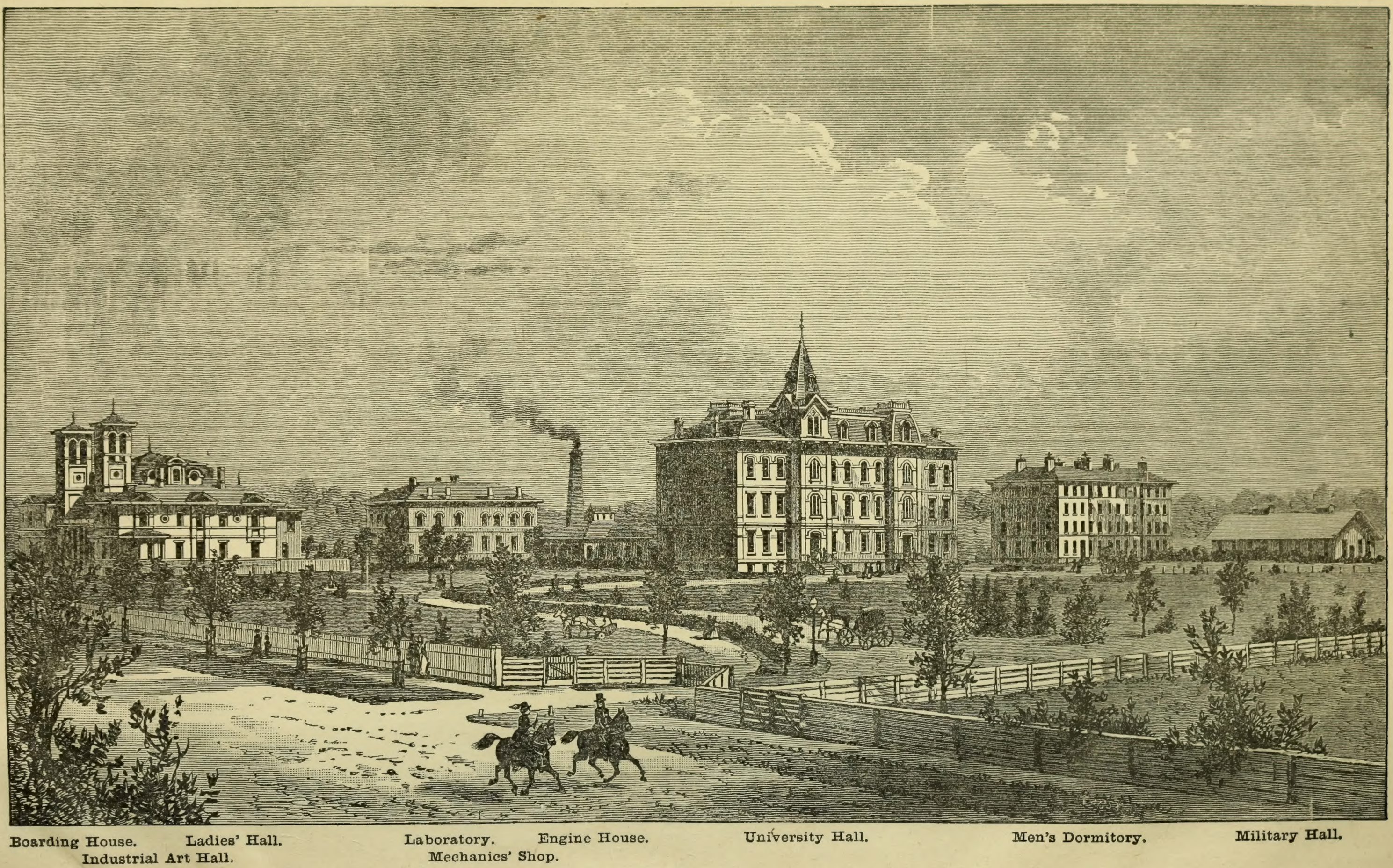
Boarding House.
Industrial Art Hall.
Ladies' Hall.
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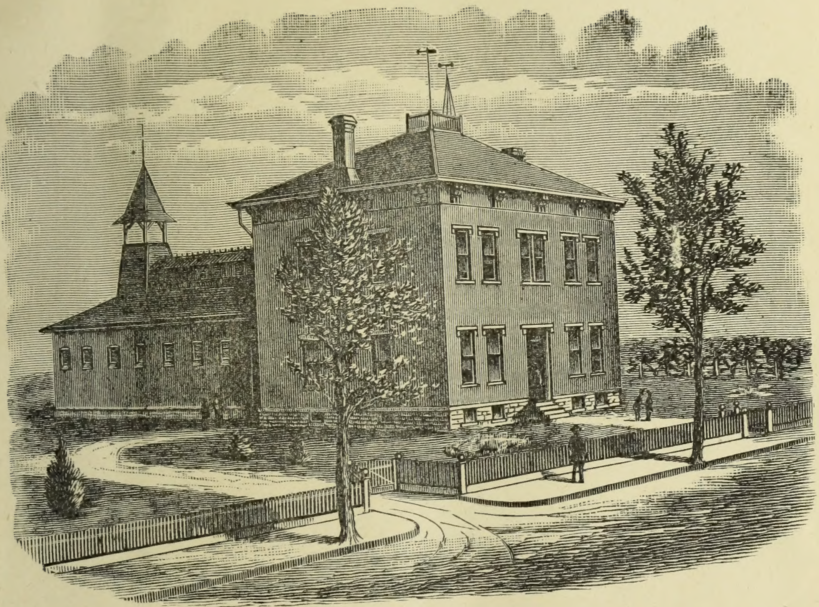
Military Hall.

PURDUE UNIVERSITY. LAFAYETTE, IND.



AGRICULTURAL HALL.

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THE
TENTH ANNUAL REGISTER
OF
PURDUE UNIVERSITY.

LAFAYETTE, IND.

1883-84.

INDIANAPOLIS:
WM. B. BURFORD, CONTRACTOR FOR STATE PRINTING.
1884.

BOARD OF TRUSTEES.

JOSEPH C. RATLIFF	RICHMOND.
JOHN S. WILLIAMS	LAFAYETTE.
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SAMUEL HARGROVE	UNION.
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OFFICERS OF THE BOARD.

JOSEPH C. RATLIFF	PRESIDENT.
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MARTIN L. PEIRCE	TREASURER.

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JOSEPH C. RATLIFF, SAMUEL HARGROVE,
WILLIAM A. BANKS.

COMMITTEE ON MECHANICAL DEPARTMENT.

CHARLES R. PEDDLE, ALFRED P. EDGERTON,
JOSEPH C. RATLIFF.

63201

FACULTY.

JAMES H. SMART, A. M., LL. D., PRESIDENT.
Professor of Political Economy and Psychology.

LANGDON S. THOMPSON,
Professor of Industrial Art, and Secretary of Faculty.

CHARLES R. BARNES, A. M.,
Professor of Botany, Zoology and Geology.

EDWARD E. SMITH, A. B., B. S.,
Professor of English and History.

WILLIAM F. M. GOSS,
Professor of Practical Mechanics.

MOSES C. STEVENS, A. M.,
Professor of Mathematics.

WILLIAM C. LATTA, M. S.,
Professor of Agriculture and Horticulture, and Farm Superintendent.

ALBERT W. STAHL, M. E., U. S. N.,
Professor of Mechanical Engineering.

ROBERT B. WARDER, A. M., B. S.,
Professor of Chemistry, and State Chemist.

OSCAR J. CRAIG, A. M.,
Professor in Charge of Preparatory Class.

EDNA D. BAKER,
Instructor, Preparatory Class, and Matron of Ladies' Hall.

RICHARD W. SWAN, A. M.,
Librarian and Registrar.

ASSISTANTS.

*JOSEPH E. CLAPPER,
Assistant in Practical Mechanics.

JOHN PURSELL,
Assistant in Wood Carving.

†ELROY A. DILLON, B. S., '83,
Assistant in Practical Mechanics.

WALTER H. PETERS, B. S., '82,

The following additional Instructors have been appointed for the year 1884-5:

HENRY L. OSBORN, PH. D.
(Late Fellow Johns Hopkins Univ.)
Instructor in Zoology.

JAMES TROOP, M. S.
(State Ag. Coll. Mich.)
Instructor in Horticulture and Entomology.

Horticulturist, and Superintendent of [illegible]

LOUIS BIANCHI,
Engineer and Superintendent of Buildings.

ROBERT G. ELLIOTT,
Florist and Gardener.

WILLIAM O. FRITZ, B. S.,
Foreman of Experimental Farm.

PATRICK TRACEY,
Janitor.

---

*Winter Term.
†Spring Term.

FACULTY.

JAMES H. SMART, A. M., LL. D., PRESIDENT.
Professor of Political Economy and Psychology.

LANGDON S. THOMPSON,
Professor of Industrial Art, and Secretary of Faculty.

CHARLES R. BARNES, A. M.,
Professor of Botany, Zoology and Geology.

EDWARD E. SMIT

Horticulture, and Farm Superintendent.

ALBERT W. STAHL, M. E., U. S. N.,
Professor of Mechanical Engineering.

ROBERT B. WARDER, A. M., B. S.,
Professor of Chemistry, and State Chemist.

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JOHN PURSELL,
Assistant in Wood Carving.

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Assistant in Practical Mechanics.

WALTER H. PETERS, B. S., '82,
Assistant State Chemist.

EMPLOYES.

WILLIAM H. RAGAN,
Horticulturist, and Superintendent of State Meteorological Station.

LOUIS BIANCHI,
Engineer and Superintendent of Buildings.

ROBERT G. ELLIOTT,
Florist and Gardener.

WILLIAM O. FRITZ, B. S.,
Foreman of Experimental Farm.

PATRICK TRACEY,
Janitor.

---

*Winter Term.
†Spring Term.

*STUDENTS.

COLLEGE.

POST GRADUATES.

Elroy A. Dillon	B. S. '83	Danville.
Carrie Henderson	B. S. '80	Lafayette.
Anna Henderson	B. S. '80	Lafayette.
Lura Louise Thompson	B. S. '83	Lafayette.

SENIOR CLASS.

Benjamin Lindsay Blair	S	Avon.
Charles Denman Keyes	S	Peru.
Fanny Bennet Lutz	S	†Wea.
Flora Jane Lutz	S	Wea.
S. A. D. S. Lyons	S	Boundary City.
George Washington McCoy	S	Lovely Dale.
Albert Brown Porter	S	Indianapolis.
Walter J. Quick	S	Columbus.
Harry Elisha Rank	S	Chauncey.
Edward Judson Roberts	S	Oxford.
Elizabeth Shoemaker	S	Chauncey.
Hattie Schutz VanNatta	S	Fowler.

JUNIOR CLASS.

Perry Davis Creager	S	Portland.
William Arthur Fankboner	S	Marion.
Maude Richmond Henderson	S	Lafayette.
Eli K. Hoober	S	Springport.

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*Students in the School of Science are designated by S; in the School of Agriculture and Horticulture by A; in the School of Mechanics and Engineering by M; and the School of Industrial Art by I.

†The P. O. address of residents of Wea is Lafayette.

*William S. Lingle, Jr.	A	Lafayette.
Effa Jane Lutz	S	Wea.
J. D. Moor	A	Elizabethtown.
Charles L. Ratliff	M	Spiceland.
Ella May Stockton	S	Chauncey.
Marshall Thatcher	A	Chauncey.
Alfred Nelson	S	White Rock, Minn.
Howard Vanderbilt	S	Lafayette.
Henry Vinton	I	Lafayette.
Henry Martyn Whistler	M	Rich Valley.

SOPHOMORE CLASS.

Anna Embree Baker		Stockwell.
Bessie Baker	S	Stockwell.
James Franklin Bruff	M	Lafayette.
Orloff Field Dragoo	S	Macedonia.
Mary Katharina Hollingsworth	I	Wea Plains.
Arthur L. King	M	Avilla.
James H. Lyon	S	Delphi.
Scott Mead	M	Patriot.
Shrewsbury B. Miller	M	Charleston, W. Va.
Mary Florence Murdock	I	Wea.
M. Gorrell Quick	S	Columbus.
Chester O. Read	M	Chauncey.
George W. Ross	I	Raub.
Clarence Snell	I	Onward.
Joseph Swearingen	M	Blountsville.
Mary Margaret VanNatta	S	Fowler.
Charles Heath Vinton	M	Lafayette.
Samuel Turner Virden	A	Monticello.
Kate Wentz	I	Chauncey.
Jesse Winstandley	M	Bedford.

†FRESHMAN CLASS.

George Ade		Kentland.
Newton Henry Bartholomew	A	Stockwell.

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*Died, January 31, 1884.

†Students not here classified by schools, elect the School of Science or the School of Industrial Art at the beginning of the Sophomore year, the Freshman work in both being identical.

Eddy Ellsworth Blair		Avon.
William Brady		Lafayette.
Buell Brown	A	Mooney.
William Bunger	A	North's Landing
Paul H. Chapin	M	Indianapolis.
*Alanson Bryant Clark		Roan.
Mary E. Cooper		Lafayette.
Harry Thomas Cory		Chauncey.
William Anderson Creath	M	Benham's Store
Edgar Stewart Crowder	M	Sullivan.
John Wakefield Dudley	M	Wash'gt'n,D.C.
John Edward Dyar	A	Kokomo.
Martha E. Eichholtz		Dayton.
Homer A. Elwell		Otterbein.
George Gregg Floyd	M	St. Paul.
George W. Hart		Aurora.
Benjamin Looker Harvey	M	Lafayette.
Horace B. Hubbard		Peru.
Lewis Burt Jackson	M	Lafayette.
George Thomas Keyes		Peru.
Ransom Tedrow Lewis	M	Indianapolis.
James Allen Lilly	M	Patton.
Samuel G. McMeen		Eugene.
George A. Marshall		Harveysburg.
Ralph W. Moss		Ashboro.
Anna Kelley O'Neall		Wea.
Lida Adell Pierce		Chauncey.
Richard Henry Peirce	M	Lafayette.
Austin Tunis Quick	M	Columbus.
Flora Fanny Roberts		Chauncey.
William Franklin Romine	A	Stone Bluffs.
George Wilkinson Ross		Raub.
John Godfrey Sample	M	Lafayette.
Carlton Hooper Sargent		Logansport.
Becca Hunt Sickler		Otterbein.
Bernard Gilbert Smith		Lafayette.
Charles A. Stafford		Millville.

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*Died, November 7, 1883.

Anna Maude Stewart . . . . Romney.
Bennett Taylor . . . . M . . . . Lafayette.
Henry Neville Throckmorton . . . . Lafayette.
William Edwin Willcuts . . . A . . . . Roesburgh.

IRREGULAR AND SPECIAL STUDENTS.

The special students named below include (1) students taking special or irregular courses only, and (2) students taking a special course in addition to one of the regular courses.

Bessie Baker . . . . Stockwell.
Wood Carving.

Blanche Wallace Brown . . . . Lafayette.
Wood Carving, Decorative Design and Historical Ornament.

Mary M. Broadwell . . . . Lafayette.
Wood Carving.

Anna Louise Burgess . . . . Indianapolis.
Wood Carving.

William Elmer Burton . . . . Sullivan.
Decorative Design.

Paul H. Chapin . . . . Indianapolis.
Wood Carving.

Ernest Vernon Claypool . . . . Chauncey.
Mathematics.

Selar Arthur Douglass . . . . Patriot.
English Literature, Zoology and Chemistry.

Jennie Dunning . . . . Auburn, N. Y.
English Literature.

Elroy A. Dillon, B. S., '83 . . . . Danville.
Mechanical Engineering.

George S. Hail . . . . Chicago, Ill.
Decorative Design.

Valentine Hansen . . . . Lafayette.
Decorative Design and Model and Object Drawing.

Anna Henderson, B. S. '80 . . . . Lafayette.
Decorative Design and Historical Ornament.

Carrie Henderson, B. S., '80 . . . . . . Lafayette.
Wood Carving.

Anna M. Jenners Wood Carving.	Lafayette.
Loretta Johnson Wood Carving, Decorative Design and Model and Object Drawing.	Lafayette.
Mrs. M. Levering Wood Carving.	Lafayette.
Ransom Tedrow Lewis Wood Carving.	Indianapolis.
Edward N. Reser Decorative Design.	Wea.
Thomas Robertson Mechanical Engineering.	Hamilton, Ont.
Wilbur Sample Wood Carving and Decorative Design.	Lafayette.
Elizabeth Shoemaker Advanced Botany.	Chauncey.
Nellie C. Smith Model and Object Drawing.	Lafayette.
Albert Malcolm Stewart Wood Carving and Decorative Design.	Indianapolis.
Anna Maude Stewart Model and Object Drawing.	Romney.
Ella May Stockton Painting.	Chauncey.
Lizzie Day Swan Wood Carving and Decorative Design.	Lafayette.
Lura Louise Thompson Wood Carving and Painting.	Lafayette.
H. N. Throckmorton Wood Carving.	Lafayette.
Robert B. Wallace Wood Carving and Decorative Design.	Lafayette.
George W. Wortman Wood Carving and Decorative Design.	Lafayette.

PREPARATORY CLASS.

REGULAR.

Martin Anderson Adams	Jeffersonville.
George Gordon Ball	Lafayette.
James Andrew Best	Montmorenci.
Henry Luke Bolley	Holman.
Morton Allen Bond	Richmond.
Jessie Born	Lafayette.
Marx Born	Lafayette.
John Grant Bowers	Muncie.
Joseph Franklin Bowers	Muncie.
Lewis Brady	Lafayette.
Henry Brockenbrough	Lafayette.
Edmund Brown	Lafayette.
Frank Burns	Delphi.
George Eustis Bushnell	Indianapolis.
Charles Wesley Campbell	Kirkpatrick.
Orra Belle Clevinger	Battle Ground
Lulu Comstock	Lafayette.
Mollie Cook	Templeton.
Charles Council	Columbus.
James Dwight Cunningham	Sugar Branch.
Florence Davidson	Hazleton.
Florence Donelly	Lafayette.
William Wilson Doup	Columbus.
Harry Macy Felix	Chauncey.
Dora Kathleen Feely	Lafayette.
Sallie Ayres Ford	Lafayette.
George S. Hail	Chicago, Ill.
Clyde Verne Halstead	Kirkpatrick.
Dean Whitman Hammond	Indianapolis.
Minnie Hargrove	Union.
Meade S. Hays	Chauncey.
Schuyler Colfax Hutton	Wolcott.
Caleb Bales Jackson	Dana.
Frances Emma Jakes	Otterbein.
Frank Kellogg	Lafayette.

Frank Burr Krimbill	Crown Point.
Victoria Lineback	Greenfield.
Joseph Franklin McBeth	Lafayette.
Joseph Albert McBride	Clark's Hill.
Carra Munger	Lafayette.
John O'Gara	Lafayette.
Frank Peregrine	Francesville.
Flora Emma Pierce	Chauncey.
Charles Poland	Fairland.
Annie Belle Ragan	Clayton.
Sadie Raub	Lafayette.
James C. Ross	Raub.
Richard Burbridge Sample	Lafayette.
Herschel G. Scott	Elrod.
William Reynolds Shetterly	Dupont.
John William Shill	Conroe.
James Samuel Shortle	Goldsmith.
Stella Edith Smith	Battle Ground
Nellie Colfax Smith	Lafayette.
Albert Emerson Smith	Zionsville.
John Thompson Spivey	Orange.
William Jackson Strayer	Centreville.
Albert Malcolm Stewart	Indianapolis.
William Hunter Vawter	Chauncey.
Lyman Voyles	Crandall.
Edward Weigele	Lafayette.
Charles Grant Westcott	Richmond.
Edward Clarence Wells	Vallonia.
Lydia Caroline Weyher	Chauncey.
Adah Whinery	Oxford.

IRREGULAR.

Della Anson	Lafayette.
Emma Stella Campbell	Culver.
Rose Hattie Campbell	Burton.
Julia Conolly	Lafayette.
Clarence Limes Cory	Chauncey.
Lora Mabel Cox	Lafayette.

Edward Clement Davidson	Lafayette.
Charles Driscol	Lafayette.
Emma Eichelzer	Lafayette.
Mamie Evans	Elston.
George Charles Fox	Romney.
Flora Mary Fox	Romney.
Addie Marie Finch	Templeton.
Arabell Grove	Lafayette.
Ruth Dyche Hunt	Elston.
Nona Hunt	Elston.
Carrie Luetta Hursh	Colburn.
Charles Edgar Hutton	Wolcott.
Charles Jakes	Otterbein.
Maggie Mull	Battle Ground.
George Lewis Newman	Lafayette.
Fannie Hershe Nisley	Lafayette.
Kate Helena O'Gara	Lafayette.
Della Odle	Pine Village.
Ida Owen	Lafayette.
Ella Payne	Lafayette.
Mary Penrod	Lafayette.
Jennie Picken	Glen Hall.
Carrie Josephine Picken	Glen Hall.
Henry Powell	Pettit.
Anna Powers	Lafayette.
Edward Newton Reser	Wea.
Ella Robertson	Glen Hall.
Charlotte Warren Ross	Raub.
Wilbur Sample	Lafayette.
Media Storms	Stockwell.
Daniel Edward Storms	Stockwell.
Willard Winfield Waldron	Lafayette.
Robert B. Wallace	Lafayette.
John Marion Westfall	Burton.
Ida Williams	Stockwell.
Addie Virginia Wood	Battle Ground.

SUMMARY.

COLLEGE.

Post Graduates	4	
Seniors	12	
Juniors	14	
Sophomores	20	
Freshmen	43	
Irregular and Special	31	
	124	
Deduct names repeated	11	
		113

PREPARATORY CLASS.

Regular	65	
Irregular	42	
	107	
Deduct names repeated	6	
		101
Total number of different students		214

COUNTIES REPRESENTED.

Names of counties represented by one or more students:

Bartholomew,
Benton,
Boone,
Carroll,
Cass,
Clark,
Clay,
Clinton,
Crawford,
Dearborn,
Decatur,
Delaware,
Fayette,
Fountain,
Grant,
Gibson,
Hancock,
Harrison,
Hendricks,
Henry,
Howard,
Jackson,
Jasper,
Jay,
Jefferson,
Knox,
Lake,
Lawrence,
Marion,
Miami,
Montgomery,
Newton,
Noble,
Ohio,
Pike,
Ripley,
Shelby,
Sullivan,
Switzerland,
Tippecanoe,
Tipton,
Vermillion,
Wabash,
Warren,
Wayne,
White.

Total 46

MILITARY DEPARTMENT.

PURDUE CADETS.

OFFICERS.

Captain	George W. McCoy.
1st Lieutenant	P. D. Creager.
2d Lieutenant	W. A. Fankboner.
1st Sergeant	E. K. Hoober.
2d Sergeant	R. T. Lewis.
1st Corporal	M. A. Adams.
2d Corporal	J. G. Bowers.

PRIVATES.

E. E. Blair,
H. L. Bolley,
J. F. Bowers,
Buell Brown,
William Bunger,
G. E. Bushnell,
H. T. Cory,
J. D. Cunningham,
S. A. Douglass,
J. W. Dudley,
J. E. Dyar,
H. A. Elwell,
Schuyler C. Hutton,
C. B. Jackson,
F. B. Krimbill,
G. T. Keyes,
G. W. Marshall,
Scott Mead,
J. A. McBride,
S. G. McMeen,
Alfred Nelson,
A. B. Porter,
M. G. Quick,
G. W. Ross,
H. G. Scott,
J. S. Shortle,
Clarence Snell,
J. T. Spivey,
D. E. Storms,
Marshall Thatcher.
S. T. Virden,
W. J. Quick.

ALUMNI.

1875.

John Bradford Harper, B. S.; Indianapolis.

1876.

Charles John Bohrer, B. S.; A. C., 1877; Lafayette.

1877.

Franklin Pierce Clark, B. S.; A. C., 1878; Baltimore, O.
William King Eldridge, B. S.; C. E., 1878; Lafayette.

1878.

Jesse Harvey Blair, B. S.; LL. B.[1]; Indianapolis.
Eulora Miller, B. S.; Lafayette.
Daniel William Noble, B. S.; Indianapolis.
John Crothers Vannatta, B. S.; Kentland.

1879.

Nettie Derexa Morey, B. S.; Chicago.
Guilford Lawson Spencer, B. S., A. C.; M. S.[2]; Lafayette.

1880.

James Nelson Bartholomew, B. S.; M. D.[3]; San Alamos, California.
Margaret Jane Erisman, B. S.; Lafayette.
Annie Henderson, B. S.; Lafayette.
Carrie Henderson, B. S.; Lafayette.
*Lewis Owens, B. S.; Chalmers.
Worth Reed, B. S.; Baltimore, Md.
Lilian Gray Smith, B. S.; Lafayette.

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[1] Indianapolis Law School, 1883.
[2] Michigan University, 1882.
[3] Medical College of Ohio, 1882.
*Died March, 1881.

1881.

Mamie Emma Fraser, B. S.; Terre Haute.
John Martin McBroom, B. S.; Hillsboro.
William Buchanan Sinclair, B. S.; San Pierre.
Eva Wilson Smith, B. S.; Lafayette.
Jessie Florence Thompson, B. S.; Lafayette.
Albert King Warren, B. S.; Lebanon.
Thomas Perkins Weir, B. S.; Muncie.
William Emerson White, B. S.; Lafayette.

1882.

Philip Dodridge Alexander, B. S.; Mount Vernon.
Henry Abraham Beck, B. S.; Trader's Point.
Maggie Janet Chapman, B. S.; Topeka, Kansas.
William Edgar Driscoll, B. S.; Muncie.
Elwood Mead, B. S.; C. E.; Fort Collins, Colorado.
Walter Henry Peters, B. S.; A. C.; Lafayette.
Edward Ewing Sickler, B. S.; Indianapolis.
Edward Sabin White, B. S.; Lafayette.
Henry Augustus Huston, A. C.; A. B.[4]; Lafayette.
Charles A. Crampton, A. C.; Ph. C.[5]; Moline, Illinois.

1883.

Kate Luvenia Bishop, B. S.; Peru.
Frank Vincent Broadbent, B. S.; Marion.
Carrie Avanelle Cory, B. S.; Chauncey.
Elroy A. Dillon, B. S.; Danville.
Anna Laura Foster, B. S.; Otterbein.
Charles Haskel Henderson, B. S.; Lafayette, (P. O.)
Harry G. Lutz, B. S.; Wea.
Walter Stevens Ratliff, B. S.; Richmond.
Otis S. Roberts, B. S.; Oxford.
Ida Virginia Smith, B. S.; Lafayette.
Lura Louise Thompson, B. S.; Lafayette.
George King Throckmorton, B. S.; Romney.
James Milo Waugh, B. S.; Colfax.
Emory Calvin White, B. S.; Allegan, Mich.
William Edward White, B. S.; Oxford.

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[4] Bowdoin College, 1878.
[5] Michigan University, 1882.

COURSES OF STUDY.

PURDUE UNIVERSITY is a college of Science, Agriculture, and the Mechanic Arts. It embraces four special schools and a Preparatory Class, as follows:

I. School of Agriculture and Horticulture.
II. School of Mechanics and Engineering.
III. School of Science.
IV. School of Industrial Art.
V. Preparatory Class.

These courses of instruction in the four special schools are so arranged that they include, with few exceptions, the same instruction in general science, mathematics, English, history, political and mental science, and industrial drawing. In addition to these branches, common to the four schools, the School of Agriculture adds four years of daily instruction and practice in agriculture and horticulture; the School of Mechanics and Engineering, two years of daily instruction in mechanics and shop work, and two years of mechanical engineering; the School of Science, four years in laboratory work, two hours daily, in the natural and physical sciences; and the School of Industrial Art, four years of instruction and training in industrial art.

Students in each of the schools are now required to engage in an average of two hours daily of *hand work*, including laboratory practice, shop work, field work, etc.

While the Preparatory Class offers a thorough drill in the common English branches which is quite complete in itself, it is designed to prepare students to enter either of the four schools of the University.

The courses are as follows:

SCHOOL OF AGRICULTURE—COURSE AND PROGRAMME.

FRESHMAN CLASS.

HOURS.	8 A. M TO 9 A. M.	9 A. M. TO 10 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M., OR 3:30 P. M. TO 5:30 P. M.
1st Term. 15 w.		*Farm Crops, 8 w. Farm Stock, 7 w.	English Composition and Rhetoric.	Geometry.	Botany, 1:30 to 3:30.
2d Term. 12 w.		Stock Breeding.	English Composition and Rhetoric.	Geometry.	Botany, 1:30 to 3:30.
3d Term. 11 w.		Model and Object Drawing.	English Composition and Rhetoric.	Algebra.	Botany, 1:30 to 3:30.

SOPHOMORE CLASS.

1st Term. 15 w.	Logic.	Higher Algebra, 12 w. Trigonometry, 3 w.	†Farm Implements, 6 w. Farm Management, 9 w.		Zoology, 1:30 to 3:30.
2d Term. 12 w.	English Literature.	Trigonometry.		Physics.	Shop Work, 3:30 to 5:30.
3d Term. 11 w	English Literature.	Surveying.	Floriculture, 5 w. Vegetable Gardening, 6 w.	Physics.	

JUNIOR CLASS.

1st Term. 15 w.	Veterinary Hygiene.	General History.	*Entomology, 12 w, Meteorology, 3 w.		Chemistry, 1:30 to 3:30.
2d Term. 12 w.		General History.	Meteorology, 4 w. Building Materials and Masonry, 8 w.		Chemistry, 1:30 to 3:30. Shop Work, 3:30 to 5:30.
3d Term. 11 w.	*Farm Drainage, 5 w. Landscape Gardening, 6 w.	General History.	Bridges and Roofs.		Agricultural Chemistry, 1:30 to 3:30.

SENIOR CLASS.

1st Term. 15 w.		Human Physiology.	Political Economy, 13 w. U. S. Constitution, 2 w.	Development of the Eng. Language, 12 w. Oratory, 3 w.	Fruit Culture, 8 w. Forestry, 4 w. Principles of Agriculture, 3 w., 1:30 to 2:30.
2d Term. 12 w.		Human Physiology, 4 w. Geology, 8 w.	U. S. Constitution, 4 w. Psychology, 8 w.	Oratory, 4 w. Roads and Railways, 8 w.	Principles of Agriculture, 5 w. Principles of Feeding and Dairying, 7 w. 1:30 to 2:30.
3d Term. 11 w.		Geology.	Psychology.	Canals and Rivers.	Economic Botany, 1:30 to 3:30.

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*With occasional field work.

†Hand practice, two hours daily.

SCHOOL OF MECHANICS AND ENGINEERING.

FRESHMAN CLASS.

HOURS.	8 A. M. TO 9 A. M.	9 A. M TO 10 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M. OR 3:30 P. M. TO 5:30 P. M.
1st Term. 15 w.	Wood Working Tools. Elements of Construction. Mechanical Drawing.	Model and Object Drawing.	English Composition and Rhetoric.	Geometry.	Bench Work in Wood, 10 w.
2d Term. 12 w.	Theory of Pattern Making. Mechanical Drawing.	Mechanical Drawing.	English Composition and Rhetoric.	Geometry.	Machine Work in Wood, 5 w. Pattern Making.
3d Term. 11 w.	Hand Tools for Iron. Mechanical Drawing.	Mechanical Drawing.	English Composition and Rhetoric.	Algebra.	Vise Work in Iron.

SOPHOMORE CLASS.

1st Term. 15 w.	Logic.	Algebra, 12 w. Trigonometry, 3 w.	Descriptive Geometry.	Descriptive Geometry.	Iron Forging.
2d Term. 12 w.		Trigonometry.	Theory of Machine Work. Mechanical Drawing.	Physics.	Steel Forging, 4 w. Machine Work, 8 w.
3d Term. 11 w.		Surveying.	Elementary Lecture on Steam Engine. Mechanical Drawing.	Physics.	Machine Work.

JUNIOR CLASS.

1st Term. 15 w.	Analytical Geometry.	Principles of Mechanism.	Mechanical Drawing.		Chemistry.
2d Term. 12 w.	Calculus.	Metallurgy.	Mechanical Drawing, 4 w. Building Materials, 4 w. Masonry, 4 w.		Chemistry.
3d Term. 11 w.	Calculus.	Strength of Materials.	Bridges and Roofs.		Chemistry.

SENIOR CLASS.

1st Term. 15 w.	Boilers, 10 w. Steam Engines, 5 w.		Political Economy, 13 w. U. S. Constitution, 2 w.	Development of the Eng. Language, 12 w. Oratory, 3 w.	Mechanical Drawing, Design of Machinery and Experimental Work in Engineering.
2d Term. 12 w.	Steam Engines, 10 w. Hydraulics, 2 w.		U. S. Constitution, 4 w. Psychology, 8 w.	Oratory, 4 w. Roads and Railways, 8 w.	
3d Term. 11 w.	Hydraulics, 3 w. Machinery and Mill Work.		Psychology.	Canals and Rivers.	

SCHOOL OF SCIENCE.

FRESHMAN CLASS.

HOURS.	8 A. M. TO 9 A. M.	9 A. M. TO 10 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M.
1st Term. 15 w.		Model and Object Drawing.	English Composition and Rhetoric.	Geometry.	Botany.
2d Term. 12 w.		Orthographic Projection.	English Composition and Rhetoric.	Geometry.	Botany.
3d Term. 11 w.		Linear Perspective.	English Composition and Rhetoric.	Algebra.	Botany.

SOPHOMORE CLASS.

1st Term. 15 w.	Logic.	Higher Algebra, 12 w. Trigonometry, 3 w.			Zoology.
2d Term. 12 w.	English Literature.	Trigonometry.		Physics.	Zoology.
3d Term. 11 w.	English Literature.	Surveying.		Physics.	Zoology.

JUNIOR CLASS.

1st Term. 15 w.	Analytical Geometry.	General History.	Botany or Zoology.	Botany or Zoology.	Chemistry.
2d Term. 12 w.	Analytical Geometry, 5 w. Calculus, 7 w.	General History.	Botany or Zoology.	Botany or Zoology.	Chemistry.
3rd Term. 11 w.	Calculus.	General History.	Botany or Zoology.	Botany or Zoology.	Chemistry.

SENIOR CLASS.

1st Term. 15 w.		Human Physiology.	Political Economy, 13 w. U. S. Constitution, 2 w.	Development of the English Language, 12 w. Oratory, 3 w.	Chemistry or Botany or Zoology.
2d Term. 12 w		Human Physiology, 4 w. Geology, 8 w.	U. S. Constitution, 4 w. Psychology, 8 w.	Oratory, 4 w. Astronomy, 8 w.	Chemistry or Botany or Zoology.
3rd Term. 11 w.		Geology.	Psychology.	Astronomy.	Chemistry or Botany or Zoology.

SCHOOL OF INDUSTRIAL ART.

FRESHMAN CLASS.

Hours.	8 A. M. to 9 A. M.	9 A. M. to 10 A. M.	10:30 A. M. to 11:30 A. M.	11:30 A. M. to 12:30 P. M.	1:30 P. M. to 3:30 P. M.
1st Term. 15 w.		Model and Object Draw'g.	English Composition and Rhetoric.	Geometry.	Botany.
2d Term. 12 w.		Orthographic Projection.	English Composition and Rhetoric.	Geometry.	Botany.
3d Term. 11 w.		Linear Perspective.	English Composition and Rhetoric.	Algebra.	Botany.

SOPHOMORE CLASS.

1st Term. 15 w.	Logic.	Higher Algebra, 12 w. Trigonometry, 3 w.			Light, Shade and Composition.
2d Term. 12 w.	English Literature.	Trigonometry.		Physics.	Color.
3d Term. 11 w.	English Literature.	Surveying.		Physics.	Historical Ornament.

JUNIOR CLASS.

1st Term. 15 w.	Analytical Geometry.	General History.	Botany or Zoology.	Botany or Zoology.	Decorative Design, Wood Carving or Clay Modeling.
2d Term. 12 w.	Anal. Geometry, 2 w. Calculus, 10 w.	General History.	Botany or Zoology.	Botany or Zoology.	Decorative Design, Wood Carving, or Clay Modeling.
3d Term. 11 w.	Calculus.	General History.	Botany or Zoology.	Botany or Zoology.	Decorative Design, Wood Carving, or Clay Modeling.

SENIOR CLASS.

1st Term. 15 w.		Human Physiology.	Political Economy, 13 w. U. S. Constitution, 2 w.	Development of the Eng. Language, 12 w. Oratory and the Study of Argument and Persuasion, 3 w.	Decorative Design, Wood Carving, or Clay Modeling.
2d Term. 12 w.		Human Physiology, 4 w. Geology, 8 w.	U. S. Constitution, 4 w. Psychology, 8 w.	Oratory and the Study of Argument and Persuasion, 4 w. Astronomy, 8 w.	Decorative Design, Wood Carving, or Clay Modeling.
3d Term. 11 w.		Geology.	Psychology.	Astronomy.	Decorative Design, Wood Carving, or Clay Modeling.

INSTRUCTION AND PRACTICE.

THE SCHOOL OF AGRICULTURE.

The course of study in the School of Agriculture combines special instruction in agriculture, with general education in science and English.

Although the course is specially designed to give the student an increased liking and fitness for agricultural pursuits, it by no means neglects that general educational training which all need to become intelligent citizens.

SPECIAL STUDIES OF THE COURSE.

Students taking this course devote about one-fourth of their time to special studies relating directly to the various branches of agriculture and horticulture.

The nature and scope of these special studies will be better understood by reference to the following partial list of topics, arranged under their appropriate heads.

Freshman Year. Farm crops—staple and special; planting, cultivating, harvesting, feeding and selling; crop rotations. Farm stock—history and characteristics of the various improved breeds of domestic animals, with their adaptations to soil, climate, etc. Stock breeding—principles underlying the art; laws of heredity; causes of deterioration and means of improvement.

Sophomore Year. Farm implements—study of their mechanism, adaptations, strength and durability, with hand practice in taking them apart, putting them together, and adjusting them for use. Farm management—various questions relating to the care of crops, stock, manures, buildings, fences, implements, etc.; farm help; farm accounts; buying and selling. Shop work—practice with carpenter's tools in plain wood work. Floriculture—propagation and culture of flowers. Vegetable gardening—preparation of soil, planting, transplanting, cultivation, harvesting, and winter preservation.

Junior Year. Veterinary hygiene—symptoms, causes, preventives and treatment of diseases of farm stock; sanitary arrangement of farm buildings; disinfection. Entomology—beneficial and injurious insects; means of preventing or mitigating insect ravages. Meteorology—climate in relation to agriculture; laws of storms; means of forecasting the weather. Shop work—forging, giving practice with blacksmith's tools in plain work in iron. Farm drainage—location, planning, leveling, construction and repairing of farm drains and sewers. Landscape gardening—ornamentation of the home with trees, shrubs, flowers, lawns, etc. Agricultural chemistry—chemistry of soils; chemistry of the germination, growth, ripening and decay of plants; chemistry of curing crops; chemistry of feeding, and of the dairy.

Senior Year. Fruit culture—propagation, transplanting and cultivation of fruit trees; harvesting, packing, storing and shipping of fruits; orchard sites, orchard management, etc. Forestry—effects of removing forests; reasons for forest tree planting; trees for various locations, and methods of growing the same. Principles of agriculture—effects of tillage, manures, mulching, drainage, irrigation; nature and needs of soils and crops; soil exhaustion, renovation of soils, etc. Principles of feeding and dairying—laws of animal nutrition; feeding rations for young, fattening, and work animals; effects of dry, succulent, concentrated and bulky foods; economy in feeding; effects of food, exposure and treatment on the quantity and quality of milk; milk setting, butter and cheese making; utilization of the bye products of the dairy. Economic botany—study of noxious and useful plants of the farm, their characteristics, propagation, rate of increase and conditions of growth; time and manner of destroying weeds; cross fertilization and selection as means of improving grains, vegetables, fruits and flowers.

GENERAL STUDIES OF THE COURSE.

While taking the special subjects already described, the students in the School of Agriculture are also engaged in general studies as follows: The Freshmen study botany, and English composition and rhetoric through the year, geometry twenty-seven weeks, and algebra and drawing each eleven weeks.

The Sophomores devote twenty-three weeks each to English literature and physics; fifteen weeks each to logic, zoology and trigonometry; twelve weeks to higher algebra and eleven weeks to surveying.

The Juniors take general history through the year; chemistry twenty-seven weeks; building materials and masonry eight weeks, and bridges and roofs eleven weeks.

The Seniors devote nineteen weeks to human physiology; sixteen weeks each to geology and psychology; thirteen weeks to political economy; twelve weeks to the development of the English language; eleven weeks to canals and rivers; eight weeks to roads and railways; seven weeks to oratory, and six weeks to the United States Constitution.

For specific information concerning the general studies, read what is said under their respective heads.

It will be observed that the special, as well as the general studies, continue throughout the course. It is believed that this arrangement will tend to keep the student constantly in close sympathy with agricultural pursuits. As far as possible, the special subjects are taken up at the most favorable time of the year, and in their proper relation to the purely scientific studies. The work of the class room is supplemented by field instruction; and the shop work gives a degree of mechanical skill of great value to the farmer. As far as practicable, labor will be furnished to students taking the Agricultural Course, whenever it is desired. Students receive pay for all work not instructional.

The college campus, greenhouse, experiment farm and meteorological station afford facilities for practically illustrating the class-room instruction.

The reading room of the University is furnished with many of the best agricultural papers, among which may be mentioned the London Agricultural Gazette, Gardener's Monthly, National

Live Stock Journal, American Agriculturist, Poultry World, Country Gentleman, Rural New Yorker, Breeder's Gazette, Farmers' Review, Western Rural, Prairie Farmer, Indiana Farmer, American Grange Bulletin, New York Tribune, Kentucky Live Stock Record and American Bee Journal.

The library contains bound volumes of several good journals for years past, and the following works of reference, with many others: Chauveau's Anatomy (Comparative), Stonehenge on the Horse, Allen's American Cattle, History of Short Horn Cattle, Arnold's American Dairying, The Ayrshire Cow, Armsby's Manual of Cattle Feeding, French's Farm Drainage, Waring's Elements of Agriculture, Todd's Young Farmer's Manual, Ville's Artificial Manures, American Jersey Herd Register, Downing's Fruit and Fruit Trees of America, Warder's Pomology, Kemp's Landscape Gardening, Henderson's Works on Gardening, Barry's Fruit Garden, Warder's Hedges and Evergreens, several volumes of the Royal Agricultural Society's Reports, and those of the Highland Society, of Scotland.

SCHOOL OF MECHANICS AND ENGINEERING.

The instruction in this school, during the first two years, is arranged to give special prominence to shop work and the studies pertaining thereto; the second two years are more particularly devoted to the study of the theory and practice of engineering. To present the course in the clearest manner, these two leading features are described in detail.

PRACTICAL MECHANICS.

The course in Practical Mechanics responds to the present strong and growing demand for young men who understand practical mechanical construction, who are skilled in the use of tools, and who by their education possess a high order of directive power. It adds to work of a general character, instruction and practice in those underlying principles of the common trades, which when taken together form a basis for all lines of special mechanical work.

The course includes three specific features: (1) Recitations and Lectures, (2) Mechanical Drawing, and (3) Shop Practice.

The recitations or lectures share the time with the mechanical drawing. They increase the value of the shop work by affording it ample direction, and by presenting questions that can not well be developed in the shop alone.

The mechanical drawing includes model and copy drawing, drawing to scale from blackboard sketches, machine drawing, ink shading and tinting. In the shop, students work from their own drawings.

The shop exercises are daily, and are of two hours each. The work is divided into six branches or courses, as follows: Bench work in wood, machine work in wood, pattern making, vise work in iron, iron and steel forging, and machine work in metals. In the beginning, considerable time is devoted to work that will best make the student familiar with tools and with the general laws that regulate their use, without regard to the utility of the product. As the work advances it becomes of more practical value, until during the last half year the whole time is devoted to construction. In the year 1882–83 a horizontal slide-valve steam engine was made; during the present year, four speed lathes have been under construction.

It will be seen by the courses given above, that after the completion of such machines a student has had practice in the several lines of work through which all machine construction must pass. He is able to make drawings for any part of a machine; from the drawing he can make the pattern, from the pattern the mold, and from the mold the casting. If the part is required to be of wrought iron or steel, he can forge it to form. With the casting or forging before him, he can reduce it to the required dimensions and finish, either by hand or machine, as the character of the piece may require.

A more complete outline of the work is presented below:

FRESHMAN CLASS.

First Term: 1. *a.* Lectures developing the character of cutting edges for woods, the adjustment of different tools, and the methods by which they may be kept in order.

b. Lectures on the shrinkage and warping of wood; different forms, the adaptation, and relative strength of joints; framing, bracing, paneling, and elementary stair building.

c. Lectures on wood-working machines, including rotary and traverse planers; circular, scroll and band saws; and lathes and lathe attachments.

2. Mechanical drawing, including sketches, showing the proper form for the principal parts of various wood-working tools, and drawings to scale for work to be done in the shop.

3. Shop exercises in planing, sawing, rabbeting, ploughing, notching, splicing, mortising, tenoning, dovetailing, framing, paneling and in other work involving the common carpenter tool. This is followed by circular sawing, scroll sawing and turning. The turning gives excellent practice with the common cutting tools, illustrates different methods of chucking, and trains the eye to follow in the work, the general contour and small details given on the drawing.

Second Term: 1. Lectures on molding and recitations from Rose's Pattern Makers' Assistant, as a text-book.

2. Mechanical drawing, including drawings for built-up pulley patterns, pipe bends, laggings, sweeps, sectional patterns, and other work of a similar character.

3. *a.* General exercises in molding in two and three part flasks.

b. Pattern making, including patterns and core boxes for pulleys, gears, columns, and pipe bends; complete sets of patterns for one or more machines are made by every class.

Third Term: 1. Lectures on vises, hammers, chisels, files, scrapers, and measuring appliances.

2. Drawings from copy of the details of machines.

3. Vise work in iron, including surface chipping, key seating, surface filing, squaring and fitting, round filing, sawing, scraping, and polishing.

SOPHOMORE CLASS.

First Term: 1. Descriptive geometry, including the explanation of methods of representing by drawings all geometrical magnitudes and the solution of problems relating to these magnitudes in space. This subject, including its application to shades, shadows and perspective, is taught by recitation from text-book.

2. Daily exercises in the solution of practical problems in descriptive geometry.

3. Iron forging, including exercises in heating, bending, drawing, upsetting, welding, forming, annealing, and case-hardening. About forty forgings, are made representing a large variety of operations.

Second Term: 1. Lectures on the management of steel in forging and in tempering, followed by recitations from Rose's Practical Machinist, as a text-book.

2. Drawings to scale for actual machines.

3. Steel forging, including the making and tempering of punches, drills, chisels, machine cutting tools, gravers and springs. This is followed by machine work in metals, including turning, planing, slotting, drilling, boring, fluting, etc.

Practice in machine work is usually given by the construction of one or more machines, which in character may or may not be different every year.

Third Term: 1. Lectures on the steam engine and boiler. It is not intended to make a theoretical study of engines and boilers at this time, but since a majority of the students would complete their shop work without knowing really anything about them, it is desirable that they be given at least a practical understanding of their operation and management.

2. Ink shading and tinting. The representation of flat and curved surfaces by ink tints, and of different wood and metals by colors.

3. Machine work continued from second term.

The regular work of the first two years adds to the above, general drawing, English composition and rhetoric, in the Freshman year; and mathematics, logic, and physics, in the Sophomore year. These are explained under their appropriate heads.

Students who have satisfactorily completed the above two years' work in Practical Mechanics, are well-prepared to take up the advanced two years' work in Mechanical Engineering.

MECHANICAL ENGINEERING.

The main object of the last two years' instruction in the School of Mechanics and Engineering is to give young men such training that they may become inventors, designers and constructors of machinery. The course is arranged to combine theory and practice in such a way that graduates may be fitted to do good engineering work, and eventually find their vocations in being superintendents and managers of railroads, machine shops, rolling-mills and of the numberless manufacturing establishments in which machinery plays a prominent part. While mechanical and civil engineering are being recognized as separate and distinct professions, yet the work of the latter is so often associated with that of the former, that some knowledge of civil engineering is found indispensable to a good mechanical engineer. The most successful engineer will be one who, though making a specialty of one of these branches, is yet more or less familiar with the other.

The course in Engineering has consequently been so designed that, while mechanical engineering is the principal subject of study, yet civil engineering is taught to the fullest extent that such use of time is considered profitable to the student. Nevertheless, it must be understood that the object of the course is not to graduate young men prepared to do equally good work in both mechanical and civil engineering, but to give them such instruction that they may become good mechanical engineers, while at the same time they will be conversant with all that part of civil engineering which is likely to aid them in their own special work. To accomplish this result, the student must have a thorough scientific training, coupled with a practical knowledge of the methods pursued by the large engineering and manufacturing concerns of this and other countries. The student acquires his theoretical knowledge by means of text-books and lectures, while the practical side of his education is given him by means of work in the shop and the draughting-room.

The special work in Engineering extends over the Junior and Senior years; and a thorough knowledge of the subjects taught in the first two years of the course, particularly of the mathematics and practical mechanics, is essential to the satisfactory completion of the advanced work of the course.

The work begins with daily instruction and recitations in "Principles of Mechanism." Under this head are studied the principles underlying the action and construction of the elementary combinations of which all machines are composed. The action of link-work, levers, cams, pulleys and gear-wheels, the various means of producing definite changes of velocity, the different adjustable and automatic feed motions, the principles of quick return movements, all form part of this subject. The instruction in this branch is supplemented by daily work in the draughting-room, where the student works out practical problems in mechanism similar to those that an engineer would meet in the regular practice of his profession. His ideas are thus rendered clear and definite, and he becomes able not only to say how certain problems should be handled and solved, but, what is more important, to work them out himself in a correct and intelligent manner.

During the winter term metallurgy is studied. The various fuels and refractory materials are first taken up and their peculiar fitness for different metallurgical operations are pointed out. The action of the blast furnace and the cupola, and the manufacture and refining of cast iron, wrought iron, steel, copper, zinc, tin, brass and bronze are explained in detail, according to the most modern practice. Particular attention is called to the effect produced on the strength and other desirable properties of metals by the presence of impurities, and to the manner of getting rid of them.

During this term the instruction in civil engineering is begun by the study of the properties and uses of the various building materials. The manner of quarrying and cutting stone, the use of brick, the methods of preserving wood from decay, the uses of the various mortars, concretes and cements are first studied in a general manner, after which the subject of masonry is taken up in detail. The student is taught the various methods of laying foundations, both on land and in water, and the manner of using piles and pneumatic caissons.

During the spring term the strength of materials is studied simultaneously with the subject of bridges and roofs. In the former subject special attention is given to the strength of structures as depending on the form and arrangement of their parts and on the materials of which they are composed. The strength and deflections of beams, strength of columns, shafts, riveted joints and teeth of gear wheels are all thoroughly discussed. The student is taught the methods by which the greatest strength may be secured with a given amount of material, and, in general, the economic use of materials, so as to give the structure the necessary strength without the waste attending the use of superfluous material.

Under the head of bridges and roofs are considered the various trusses used in bridge building, and the manner of building bridges of wood, stone, iron and steel. Suspension and tubular bridges, swing-bridges and other forms, are all studied from drawings and explanations of the principal existing structures of these kinds. The strength of roofs and domes, the manner of bracing them, and the necessary calculations to enable them to resist the weight of snow and the force of the wind, are all fully explained.

Simultaneously with these special engineering branches, the instruction in Mathematics is continued throughout the year. Chemistry is also studied, two hours daily of practical work being devoted to that subject during the entire Junior year.

In the Senior year, the work begins with the study of steam boilers. The advantages and disadvantages of the various forms of modern boilers, their evaporative power and efficiency, are carefully pointed out. The proper number and size of tubes and flues, the thickness of plates, strength of different styles of riveting, kinds of bracing, amount of grate and heating surface, different kinds of steam and water gauges and safety valves, the causes and methods of preventing foaming, incrustation and corrosion, methods of calculating kinds and sizes of boilers for particular purposes, the manner of setting them and of running them with safety and economy, are all studied in detail.

The steam engine is next taken up, being carefully analyzed and discussed in all its parts, particular attention being paid to link and valve motions. The student is taught how to calculate the size of an engine to develop a required power, how to determine the length of stroke, diameter of cylinder and piston-rod, size and shape of connecting-rods, and how to design the valves and eccentrics. The action of fly-wheels, effect of cushioning, lap and lead, relative advantages of simple and compound, condensing and non-condensing engines, are all explained. The steam engine indicator is studied carefully, and the student becomes thoroughly familiar with its use and the manner of interpreting its indications. Particular importance is attached to this part of the course.

In the branch of Hydraulics are studied the mechanism and action of the principal steam and hand pumps, the working of over and undershot water-wheels and turbines, flow of water through pipes and sluices, and, in general, the utilization of water-power.

Finally, under the head of Millwork and Machinery, additional time is devoted to the calculation of the sizes of parts of machinery, to the manner of arranging shops, the means of transmitting power over both short and long distances and to the solution of the miscellaneous problems constantly arising before the mechanical engineer.

The instruction in Civil Engineering during the Senior year begins with the establishment of common roads, including earthwork, drainage, road-coverings and pavements. Railways are next discussed under the heads of rails, ballast, gauge, curves, sidings, gradients and tunnels. The next subject taken up is that of canals. The divisions of the subject are: Supply of water, locks, feeders and reservoirs, culverts, waste-weirs, and general dimensions. This course ends with the discussion of river improvements, means of protecting the banks and of preventing inundations.

During the Senior year, the students devote two hours daily to practical work. They design some machine in detail, first laying out the various movements and calculating shapes and sizes of the different parts, and finally making complete working drawings, just as such work would be done by an engineer in the active pursuit of his profession. Under the head of experimental work students determine the efficiency of steam engines, boilers and pumps, or make some original investigation concerning the strength of materials or some other subject of importance to the engineer.

In addition to this special engineering work, students study political economy, United States Constitution, psychology, the historical development of the English language, oratory and the art of argument and persuasion. For explanation of the work done in these general subjects, see the appropriate heads.

Students satisfactorily completing this course will receive the degree of Mechanical Engineer (M. E.).

The University Library contains many valuable reference books bearing on the subjects included in the above course, as well as current numbers of the leading engineering journals.

SCHOOL OF SCIENCE.

BOTANY.

The study of Botany in the Freshman year is required in this school, and occupies two hours daily. Students may elect it* during the Junior and Senior years.

Required Course. The aim of the required course is to give students an opportunity for personal observation of the more important types of plant structure. Students begin their observations on the simpler forms of plants, such as Protococcus and Oscillaria, previous instruction having been given in the use of the microscope. Afterward, successively more complex types are studied †. The gross anatomy of each plant will first be studied, and then the most important features of its microscopic structure. During the latter part of the year special attention will be given to flowering plants, at least fifty species of which will be described and named. Lectures upon the anatomy and physiology of plants will be given at appropriate times in connection with the laboratory work.

Elective Course. The elective laboratory work of the first part of the Junior year includes (1) a systematic study of such orders of plants as can be collected in suitable condition in the fall, or are represented in the herbarium (seven weeks); (2) histology

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* Or Zoology. See p. 25.

† The following series, or such parts of it as time permits, will be used: Protococcus, Oscillaria, Spirogyra, Saprolegnia, Microsphæra, Marchantia, Atrichum, Adiantum, Pinus, Avena, Trillium and Capsella.

(twelve weeks), for which such material will be furnished as will illustrate the typical tissues and their chief modifications. In the latter half of the year, work will be assigned in organogeny, embryology and physiology. During the Senior year students will devote themselves to original work, upon which, at the close of the year, they will present a thesis.

Special Course. See Optional work, p. 50.

ZOOLOGY.

The study of zoology *throughout* the Sophomore year is required in the School of Science. Students in the School of Science may elect Zoology* throughout the Junior and Senior years.

Required Course—The aim of the required course in Zoology is to afford students an opportunity to become acquainted with the structure of typical species of the several groups of the animal kingdom. To this end they observe and dissect in the laboratory various specimens provided, beginning with the lower and advancing to the higher forms.† Lectures upon systematic Zoology are given in connection with the laboratory work.

Elective Course—The elective laboratory work of the Junior year includes, (1) a systematic study of the common vertebrates of this region or of such as are represented in the museum (seven weeks); (2) comparative anatomy (twenty weeks); (3) histology of vertebrates (eleven weeks.)

In the Senior year students will devote their time to original work and present a thesis upon the same at the close of the year.

Special Course. See Optional Work, p. 50.

In both Botany and Zoology ink drawings of dissections are required, because they afford the readiest means of detecting errors and enforcing accuracy of observation.

Students in Biology are recommended to purchase as handbooks:

Elementary Biology, Huxley & Martin;
Lessons and Manual of Botany, Gray;
Botany, Bessey;

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*Or Botany. See p. 25.

†The series will include Paramœcium, Vorticella, Hydra, Star-fish, Sea-urchin, Earth-worm, Mussel, Cray-fish, Grasshopper, Frog, Fish, Pigeon and Cat.

Handbook of Invertebrate Zoology, Brooks;
Handbook of Vertebrate Dissection, Martin and Moale;
Manual of Vertebrates, Jordan.

PHYSIOLOGY.

Physiology is required during the first half of the Senior year. The aim in teaching this subject is to give a more detailed knowledge of the functions of the human body than would be possible earlier in the course. Both the anatomy and functions of the nervous system, preparatory to the study of Psychology, will receive special attention. Martin's Human Body is used as a text-book. The text will be illustrated by class demonstrations and experiments.

GEOLOGY.

Geology is required during the last sixteen weeks of the Senior year. The first ten weeks will be devoted to structural and dynamical and the last six weeks to historical Geology. Dana's Manual of Geology is used as a text-book.

☞ For the instruction in mathematics, logic, composition, English literature, history and drawing given in this school, see the appropriate heads.

APPARATUS.

The department of Natural History is supplied with both simple and compound microscopes, reagents and mounting materials. There are twenty-two dissecting microscopes, eighteen of Bausch and Lomb's "Compact" dissecting microscopes, with two single lenses ($\frac{3}{4}$ and $\frac{1}{2}$ inch), and four of Beck's dissectors. There are seventeen compound microscopes. One is Beck's "Large Best" Monocular, with a battery of objectives from 3 inch to $\frac{1}{20}$, and a full set of accessories; the remainder are Beck's New Economic stands, furnished with two eye-pieces, 2 inch and $\frac{2}{3}$ inch, and two objectives $\frac{2}{3}$ and $\frac{1}{6}$.

There are ten cases of dissecting instruments, each containing two scalpels, cartilage knife, tracer, forceps, fine and coarse scissors.

Thoma's Microtome, and the Army Medical Museum Microtome, with ice box for freezing, give ample facilities for the finest section cutting.

For projections there is a first-class lantern, furnished with a large assortment of slides illustrating human and plant anatomy. This is convertible in a few moments into a projecting microscope, by means of which the image of any transparent microscopic preparation can be thrown on the screen. Light is furnished by the Brush Automatic Electric lamp.

CHEMISTRY.

Daily exercises in Chemistry, including lectures, recitations and laboratory work, are provided for Juniors. The preparation, properties and detection of the more important elements and compounds will be considered in the lectures, with experimental illustrations. Chemical philosophy will be gradually introduced, as the students acquire a sufficient variety of facts from which to generalize. The practical applications of chemistry to the various industries and to every-day life, will be duly discussed. The laboratory work will include the preparation of various gases and salts, and a course in qualitative analysis.

Seniors in the School of Science may elect chemistry for the entire year. Some of the more complex exercises in qualitative analysis will be given, with a series of exercises in gravimetric and volumetric determinations.

PHYSICS.

The course in Physics in the Sophomore year includes the elements of mechanics, hydrostatics, pneumatics and acoustics, the second term, and heat, light and electricity, the third term.

THE SCHOOL OF INDUSTRIAL ART.

OBJECT OF THE SCHOOL OF INDUSTRIAL ART.

Our first and main purpose in the Art Courses is educational. It is our purpose to train the mental faculties, to form the judgment, and hence to strengthen the whole mind. We make drawing a part of general education, and justly so, for when properly taught, it is as beneficial for general educational purposes as other departments of learning. Besides all this, we claim that no knowledge is more practical. The eye and the hand are educated as well as the mind. Proper art instruction gives this practical education of the eye and the hand, "not as a substitute for intellectual analysis and synthesis, but in addition to them."

Another object of scarcely less importance, is the production of educated artisans, who can produce the art goods that the people of this State must have. Instead of sending our raw materials abroad to be wrought into objects of service and beauty, we ought to do this work at home. Hundreds of thousands of dollars are annually sent out of the State for articles that we do not make but might make if we knew how.

When viewed in this light, Industrial Art education can not be treated as one belonging to the mere elegancies of life, but as a necessity for the highest development of the practical industries of a State.

In the widest sense "Industrial Art" means any art or business in which skill of hand is essential and by which one earns money. In a more restricted or technical sense it includes all kinds of mechanical drawing, whether machine or architectural, by which the intelligent workman is guided in his shop practice. It includes all kinds of engraving on wood, steel, copper, stone, etc. It includes all kinds of carving in wood, stone, marble, plaster, etc. It includes all kinds of decorative design, or ornament applied to objects to render them more beautiful or attractive.

It does not include what is called fine art, and yet it is difficult to draw the line between the two. In fact, fine art and industrial art overlap each other, and the elementary principles of each are the same.

One distinction between fine art and industrial art might be named. Fine art has a commercial value, but it is not counted generally among the necessaries of life. On the contrary, industrial art, in such a state of civilization as ours, is an absolute necessity, and is not to be ignored. Nearly all of us refuse to buy houses, stores, dress, furniture, carpets, cooking utensils, etc., that are totally devoid of ornament.

Industrial art has a money value that is as certain of a market as wheat or corn, and this commercial value of art is becoming greater and greater every year.

The course of study in the School of Industrial Art is, as follows:

FRESHMAN YEAR.

In the Freshman Class the instruction in drawing is general, and applies to all students who are taking the course in any of the four regular Schools.

The *First Term* begins with free-hand work. It includes free-hand outline drawing from round geometrical models, as cylinders, cones, vases, crockery-ware, and such common objects as illustrate the circle seen obliquely; the drawing of cubes, of square, triangular and hexagonal prisms, crosses, skeleton cubes, etc.; the drawing of these geometrical solids, above mentioned, *in groups*, and the application of the same to the drawing of irregular objects, as chairs, tables, desks, sofas, and buildings. Shading is also commenced in this term.

During the *Second Term* one hundred and twenty-five or more problems illustrating the elementary principles of orthographic projection (commonly known as the making of plans, elevations and other "working drawings"), including the development of surfaces, intersections of surfaces with cutting planes and with each other, are given. The instruction is given from the blackboard.

The *Third Term* includes about one hundred problems in linear perspective, including parallel, angular and oblique, showing how to put into perspective the various geometrical forms under given conditions of size, distance, position with reference to the spectator, and position with reference to both picture and ground planes—given as lectures from the blackboard.

The work in Botany, Geometry, Algebra, English Composition and Rhetoric, required of Freshmen students in the School of Industrial Art, is explained under their appropriate heads.

At the close of the Freshman year, or at the beginning of the Sophomore year, any student who has not already selected the School of Mechanics or the School of Agriculture and Horticulture, may select the School of Industrial Art.

SOPHOMORE YEAR.

During the *First Term* of the Sophomore year, model and object drawing in light and shade will be practiced, using first the crayon and stump, and afterwards, charcoal, sepia, neutral tint, India ink, etc. The elementary principles of chiar-oscuro and of composition are also explained.

The work of the *Second Term* embraces instruction in the theory of color. The principles of harmony and contrast are explained and practically applied in water colors. Also, drawing from objects in color is practiced throughout the term.

In the *Third Term* the different styles of historical ornament, ancient, mediæval and modern, will be explained and examples given, so that students may learn the characteristics of each style. Some attention is also given to the conventionalization of plants for purposes of design.

The work in Physics, Higher Algebra, Trigonometry, Surveying, Logic and English Literature, required of Sophomore students in the School of Industrial Art, is explained under their appropriate heads.

JUNIOR YEAR.

Students who have satisfactorily passed through the Freshman and Sophomore years of the School of Industrial Art, are supposed to have a fair general knowledge of drawing and are prepared to pursue some special line of work. Hence, at this stage of progress, several one-year courses of study, of about equal educational and practical value, have been arranged, any two of which may be selected by those who wish to complete a four years' course and obtain the degree of B. S. And since these one-year courses are carried on simultaneously, it matters not which one they take first.

For the above reasons, and for the reason that students who can not complete the course might be more specially benefited by some one of the courses, they are allowed to say whether they will take the course in Clay Modeling, or Design, or Wood Carving, first.

COURSE IN DESIGN.

FIRST TERM.

Flat, Decorative Design—The principles of flat or surface ornamentation are studied, and designs for borders, designs for covering flat surfaces of indefinite extent, and designs to fill a geometric space are made by the students. Botanical analysis, conventionalization and historical ornament, as well as harmony of color will receive attention.

SECOND TERM.

Methods of enlarging, reducing, and repeating patterns, as well as processes of weaving and printing, and the manner of adapting designs to different materials, and of adjusting patterns to the size of the blocks or rollers employed, will be explained.

THIRD TERM.

Applied Design—This term will be spent in making original designs for prints, carpets, lace, wall papers, oil cloths, tiles, Chinaware, frescoed walls, etc.

COURSE IN WOOD CARVING.

FIRST TERM.

Wood Carving—At first the sharpening and proper use of tools are taught. Then diaper carving, incised carving, and low-relief carving are practiced as skill in the use of implements may permit. Simple pieces of furniture, as wall pockets, picture frames, easels, music stands, book racks, easy chairs, etc., are made by the students in the mechanics' shop and carved by students in the Industrial Art course.

SECOND TERM.

During the second term students practice carving in medium and high relief, working still on furniture and other appropriate subjects.

THIRD TERM.

During this term students have practice in carving in "the round." The principles of decorative art as applied to sculptured ornament, as wood and stone carving, are explained, as well as the realistic and conventional treatment of natural forms as decorative elements.

COURSE IN CLAY MODELING.

FIRST TERM.

Modeling in Clay.—A few geometrical solids are first modeled, followed by architectural ornaments, leaves, flowers, fruits, etc. The students are also taught how to model simple articles of pottery and decorate them with raised or sculptured ornaments. Also, ornamental tiles are made and decorated. These articles are then burned in a kiln belonging to the University, or casts are taken in plaster of Paris.

SECOND TERM.

The second term is given to designing and modeling architectural Terra Cotta ornaments and the making of molds for "squeezes" and casts of the same.

THIRD TERM.

During this term the method of modeling medallions, busts and the human figure is taught to those who are prepared for this kind of work.

The work in Botany or Zoology, Analytics, Calculus and General History, required of the Junior students in the School of Industrial Art, will be found explained under their appropriate heads.

SENIOR YEAR.

Students in the Senior year of the School of Industrial Art can select any one of the following courses except the one they may have already satisfactorily completed in the Junior year, viz.: Clay Modeling, Decorative Design or Wood Carving.

The work in Human Physiology, Geology and Astronomy, Development of the English Language, Oratory, Argument and Persuasion, Political Economy, United States Constitution and Psychology, required of students in the School of Industrial Art, is explained under their appropriate heads.

Students who are prepared to do so may be allowed, by vote of the Faculty, to enter any of the art classes of the School of Industrial Art, without being obliged to take the other studies of the School. Such students, by devoting all their time to the art work of this school alone, complete it in two years, and receive a certificate of the work done, but they can not receive a Degree without taking all the studies of the School.

GENERAL SUBJECTS FOR ALL SCHOOLS.

ENGLISH AND HISTORY.

The course in English in the Freshman year includes Composition and Rhetoric. The instruction in Composition is designed to be practical, and it is made as comprehensive and varied as the time devoted to the subject will permit. The aim is so to combine the necessary details with the processes of thought that the student may rise through the mechanism of the artisan to the skill and freedom of the artist. Special attention is given to both substance and form, the purpose being to enable the student to use a wise discrimination as to that about which he writes, and as to the arrangement of his thoughts in a systematic and tasteful way. The largest liberty of individual judgment and expression, consistent with propriety and good taste, is allowed.

The course in Rhetoric includes instruction in the leading principles of the art; a thorough drill in figures of speech, with analyses of figurative writings; a careful study of the styles of various writers, their excellencies and defects; and some instruction upon the methods of argumentation and persuasion.

The elements of Logic are taught in the Sophomore year. The aim is to lead the student to see the importance of form and system in the expression of his thought; to state what he desires to say more cogently and more consistently; and to obtain such principles of reasoning as he will need in his various lines of investigation and study.

The instruction in English Literature, also in the Sophomore year, endeavors to accomplish the following things: (1) a knowledge of the more noted authors of each epoch, their character and peculiarities; (2) a knowledge of their surroundings, the age in which they wrote, their aims, etc.; (3) an investigation of the style, substance and influence of representative works; (4) an interest in and a fondness for literature of the higher and better sort; (5) an acquaintance with books, their contents, the method of quickly obtaining information desired from them, etc. To these ends, a history of the literature and its producers; the manners, customs, and the political and social influences of each era; and, finally, a typical work of an epoch, are all taken into consideration and given thorough discussion.

The instruction in History, in the Junior year, aims (1) to impart a knowledge of leading historical events, and (2) to cultivate a taste for historical reading. Special attention is given to the lives and characters of the prominent men of each epoch. Lectures are given on special subjects, and the pupils are required to write essays on various historical topics. The Department of History is fairly represented in the Library, and standard works will be added from time to time.

In the Senior year twelve weeks are given (1) to the study of the historical elements and the general relations of language, and (2) to acquiring a knowledge of the ethnographical elements which enter more immediately into the composition of the English language, as also of the time and manner of their introduction.

Seven weeks are given to the study of the oration, and of the principles underlying argument and persuasion. Instruction here is accompanied by thorough and practical drills upon each and every feature.

DEPARTMENT OF PURE MATHEMATICS.

The student completes an elementary course of plain, solid, and spherical Geometry, in which he is required to demonstrate the theorems with logical accuracy, and to construct the problems with such care that the deduced lines, measured on a scale of equal parts, will be found practically correct.

Theorems and problems, not found in the text-book, are frequently given as exercises in original work.

The course in Higher Algebra embraces Indeterminate Coefficients, Loci of Equations, Theory of Logarithms, the General Theory of Equations, and kindred subjects.

The course in Trigonometry is adapted to its application to the solution of problems in surveying and astronomy.

In Surveying, the student is required to obtain, by actual measurements, his own data for the examples illustrative of the various rules laid down in the text-book, thus becoming familiar with the use of the instruments and the actual work of the surveyor.

The aim in Analytical Geometry is to give a clear idea of the subject, and thus to pave the way for the crowning subject of the course—the Calculus.

The student is required to apply the latter in the solution of a large class of interesting and intricate problems, it being the endeavor so to instruct him that he will appreciate the utility of this branch of Mathematics.

POLITICAL AND INTELLECTUAL SCIENCE.

The instruction in Political Economy aims to train the student in probable reasoning and to guard him against hasty generalizations in those departments of the science where the facts are not well determined and known. Special attention is given to those subjects which more directly relate to agricultural and mechanical interests.

Andrews's Manual is used as the basis of the instruction on the Constitution and Government of the United States.

The instruction in Psychology (Porter's Intellectual Science) does not differ essentially from that given in other colleges. The aim is to give less attention to the speculative and historical phases of the science and more to the empirical and practical.

OPTIONAL WORK.

Persons who are qualified to do so, may be permitted for special reasons to select single or related lines of work in any School. The Faculty will in each case prescribe the minimum amount of time to be spent in such work. A certificate stating the amount of work done will be given to students who pursue any special studies.

Regular students will not be permitted to select any study which will cause them to become irregular.

MILITARY TACTICS.

Instruction in Military Tactics is provided for by the law of Congress endowing this institution, and for several years such instruction has been given. The joining of the company is *voluntary*, but, when a student becomes a cadet, he is held to regular attendance and military discipline during the period of his enlistment, which shall be for the college year. For unexcused absence or misconduct, a cadet may, at the Captain's discretion, be suspended from the company or be reported to the Faculty for discipline. The company is supplied with the best breech-loading rifles, with complete accoutrements. Upton's Tactics is used as a text-book.

CONDITIONS OF ADMISSION.

Applicants for admission to the Freshman Class must pass a satisfactory examination in the common branches, and also in Elementary Algebra including quadratic equations, United States History, Physical Geography, and Physiology. An applicant's knowledge of the common branches must be sufficient to entitle him to a teacher's certificate of good grade; and his knowledge of the elements of Algebra should be thorough. Applicants who have completed their course of preparation in High Schools, which hold the certificate of the State Board of Education, will be admitted without examination. Applicants for admission to higher classes must pass an examination in the lower studies.

Applicants for admission to the Freshman Class should be over sixteen years of age. Those possessing more than common physical health and strength, with high attainments in preparatory studies, may be admitted at an earlier age. Good character is a requisite.

As a condition of admission to the University, or any department therein, or of re-entrance, students are required to subscribe to all regulations of the University relating to the obligations and duties of students, and promise a faithful compliance therewith during their connection with the University; that is, until dismissed or graduated. The pledge prescribed is as follows:

I hereby subscribe to all the regulations of Purdue University which relate to the duties and obligations of students, and I promise on my honor a faithful compliance therewith during the University year ending June —, next.

EXAMINATIONS FOR ADMISSION.

Entrance examinations are held at the University in June and September of each year. In 1884 the first examination will be held June 3d and 4th, and the second, September 9th and 10th. Applicants may appear at either examination; but, when practicable, it is best to apply for examination in June.

It is very desirable that candidates for admission to the University be present at 8 o'clock on the morning of the first day of the examination.

Arrangements have been made for holding entrance examinations in the several counties of the State, under the direction of County Superintendents. Applications for such an examination should be made to the President of the University, Lafayette, Indiana. On the receipt of one or more applications from any county, printed questions, with directions, will be sent to the County Superintendent, and the applicant or applicants may present themselves at the regular county examination for teachers, held the last Saturday of the month. The written answers will be forwarded to the University, where they will be read and marked, and a certificate of admission forwarded to each applicant who has passed the examination.

It is recommended that those who wish to avail themselves of this local examination, take it on the last Saturday of June or of July, in order to afford ample opportunity for the examination of the manuscripts and a return of the results of the examination to the candidates in due season. Those who wish to be examined in any particular month should notify the President of the University of the fact as early as the 10th of that month, in order that the questions may be prepared and sent to the superintendent in season.

Applicants should state whether they wish to be examined for the Preparatory or for the Freshman class.

DEGREES.

The Degree of Bachelor of Science (B. S.) will be conferred on students who complete the course of study in either of the following Schools, viz.:

1. The School of Science.
2. The School of Agriculture.
3. The School of Industrial Art.

The Degree of Mechanical Engineer (M. E.) will be conferred on students who complete the course of study in the School of Mechanics and Engineering.

The degree of M. S. will be conferred on persons having held the degree of B. S.* for three years, who pursue a Post Graduate course in Advanced Science under the direction of the Faculty, pass an examination on the same, and submit a satisfactory thesis.

The degree of Analytical Chemist (A. C.) will be conferred on persons having held the degree of A. B., B. S.* or M. E.* for two years, who complete the Post Graduate course in Chemistry, an outline of which will be sent on application.

To obtain any Post Graduate degree, a residence of at least one year at this Institution is required. An exception to this condition may be made at the discretion of the Faculty, in the case of graduates of this Institution.

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* This degree must have been given by this College or by one having equal requirements for it.

Candidates for Post Graduate Degrees may present themselves at the annual examination before commencement. Applications should be made at least three months before the examination.

The price charged for a diploma is five dollars, the money to be paid to the Registrar before commencement week.

PREPARATORY CLASS.

The Preparatory Class has the two-fold object of preparing students for admission to the Freshman class, and of providing thorough instruction in the higher common school branches. It thus fills the gap between the common country school and the various schools of the University.

The Preparatory Class is in charge of a regular Professor of the University, and is provided with commodious rooms and other appliances necessary for thorough and practical instruction. The students illustrate History and Physical Geography by maps, diagrams, charts, profiles, etc., and Physiology and other branches by suitable designs. The work in Natural Philosophy is preparatory to the study of Higher Physics. As far as possible the experiments are performed by the students themselves. The experiment precedes the instruction, the pupils being guided in their work by the book and by blackboard directions. Much information is given by oral instruction, the use of the microscope and the scientific lantern, dissections, articulated skeletons, etc.

The courses of study are as follows:

PREPARATORY AND REVIEW COURSE—ONE YEAR.

First Term	Elementary Algebra with Review of Arithmetic	English Grammar	Physiology	U. S. History.
Second Term	Algebra	Composition and Rhetoric	Natural Philosophy	Physical Geography.
Third Term	Algebra	Composition and Rhetoric	Natural Philosophy	Physical Geography.

Book-keeping is taught as an optional study during the First and Second Terms.

Military Tactics, two drills a week.

NOTE.—The above course affords a review of the higher common-school branches, with Elementary Algebra, Physical Geography and Natural Philosophy.

The Text-books used in the Preparatory Class include White's Complete Arithmetic, Hutchinson's Physiology, Ridpath's United States History, Harvey's English Grammar, Wentworth's Complete Algebra, Houston's Physical Geography and Bonnell's Prose Composition.

Students whose attainments make it undesirable for them to take the regular course, may be permitted to take selected studies at the discretion of the Faculty.

CONDITIONS OF ADMISSION.

Applicants for admission to the Preparatory Class should be over fifteen years of age. They must pass a satisfactory examination in Arithmetic, Geography, English Grammar, Reading, Spelling and Writing. The examination must show a good knowledge of these elementary branches, as taught in the common schools.

Arrangements have been made for holding examinations for admission to the Preparatory Class in the several counties of the State, under the direction of County Superintendents. Applications for examination should be made to the President of the University, Lafayette, Indiana. For fuller directions, see page 52.

Applicants from graded schools in cities and towns are required to present a certificate of good standing in school, both in scholarship and deportment.

This Institution is not designed to be a reformatory, and applicants who are known to have bad habits will not be admitted. When a student's habits and influence are found to be immoral, his connection with the Preparatory Class will be terminated.

ADVANTAGES.

Purdue University is located about one mile west of the city of Lafayette, and less than half a mile from the village of Chauncey. The grounds are over one hundred feet above high-water mark in the Wabash river, and the buildings command a fine view of the city, valley and surrounding country. Lafayette is situated at the intersection of four railroad lines, extending respectively from Cincinnati and Indianapolis to Chicago, from Toledo to St. Louis, from Louisville, Ky., to Chicago, and from Sandusky, Ohio, to Bloomington, Ill. These roads give the University direct railroad connection with all parts of the State.

GROUNDS.

The campus and gardens contain twenty acres, bounded on the south and east by wide avenues bordered with walks and trees, and on the north and west by "wind-brakes" of pines and hemlocks. The grounds are laid out with convenient drives and walks, bordered with hedges and choice trees, and the lawns are ornamented with shrubbery and flowers.

BUILDINGS.

The main college building, "University Hall," has two fronts, each 136 feet in length, and is divided by two hall-ways into three sections. The central portion is five stories high, including the basement and mansard stories, and the two ends are each four stories high, with an attic. The ends of the two hall transepts are surmounted, three by a turret and one by a tower or belfry. The basement is stone and the upper stories brick, with stone trimmings. The building contains a chapel, or assembly hall, 56 by 41 feet, with galleries on three sides; an academy hall, 56 by 41 feet; two society halls, each 51 by 25 feet; a library room, 41 by 27 feet; three cabinet rooms, each 41 by 27 feet; eight recitation rooms, each 29 by 25 feet; two well-lighted basement rooms, each 29 by 25 feet; two smaller rooms for natural history purposes; and a suite of lunch and toilet rooms for ladies.

The other buildings in use are the Boarding House, the Young Men's Dormitory, the Laboratory, the Agricultural Hall, the Military Hall, the Boiler and Gas House, and the Pierce Conservatory.

The Boarding House contains a spacious dining room, a kitchen, laundry, etc., and rooms for family and servants; two suites of rooms for members of Faculty, and fourteen rooms for the occupancy of young ladies; and a complete suite of rooms for the School of Industrial Art, including a large lecture hall, four smaller rooms for shading, modeling in clay, office and library, etc., and two basement rooms for special work.

The Dormitory is four stories high. The second, third and fourth stories contain each eight suites of rooms, each suite consisting of a study room and two bed rooms with closets, and the first story contains four suites of rooms, each consisting of a study room and one bed room, and six rooms, each about the size of a study room. If each student is allowed a bed room, the Dormitory will accommodate about sixty students. The building is divided into two sections, and each section has a bath room on each floor.

The first story of the Laboratory contains the Chemical Laboratory, with a complete suite of rooms; the second story affords ample accommodations for the department of Physics, with a lecture room for School of Mechanics; and the basement contains a large mechanics' shop, two forge rooms, a lumber room, and a room for assaying, smelting, etc.

The "Agricultural Hall" is a new building, designed for use in connection with the experimental work of the University, and is an important addition to its working appliances in agriculture. The main part is 44 by 32 feet, and contains on the lower floor a seed room, a tool room, a convenient office, where are kept the in-door meteorological instruments, and a room for a museum of agricultural, horticultural, and forestry products. The second floor contains a finely lighted and conveniently arranged class room for the use of the Agricultural class, a room for work in Comparative Anatomy, and one for the person in charge of the building and the instruments. In the rear is a large store room, 56 by 24 feet, with drive-way, in which is located a pair of scales for the accurate weighing of the products of experimental plats. The remainder is divided into compartments for the storage of these products until threshed, and weighed again as grain, etc. The whole is plainly but substantially built, and is surmounted by a deck and balustrade, which, reached by a stairway, makes a good place for mounting the instruments exposed to wind and rain.

The Boiler and Gas house contains four large steam boilers for heating, and two retorts for the making of gas for lighting the entire group of buildings. It also contains the engines which are used for pumping water and for supplying needed power for driving the machinery in the mechanics' shop.

The Military Hall contains a spacious drill-room, and smaller rooms for storing arms, etc.

The Green-house, built in 1879, is a neat structure, about fifty by twenty feet, with an addition for boiler and fuel, and for potting purposes. It was built from a donation by M. L. Peirce, Esq., the Treasurer of the University, and is called the "Peirce Conservatory." A house for propagating purposes, 83 by 13 feet, has recently been added, and is already well filled.

The engineer's house, gas refinery and stable, are located on the west side of the grounds. The farm house, barn, granary, and other farm buildings are located on the one hundred acres situated south of the campus, on the opposite side of the street.

CHEMICAL AND PHYSICAL APPARATUS.

The University has a good supply of chemical apparatus and a well equipped Laboratory. Each student is furnished with a full set of apparatus and the necessary chemicals for all his work and experiments, and he is held responsible for their proper use. He is charged with actual breakage and damage. A fine lantern for projection, with electric light, is used to throw diagrams and formulas on the screen.

The physical apparatus has been selected with more special reference to experimental lectures, and is fullest in the departments of electricity and magneto-electricity. It includes a full set of telegraphic apparatus, two frictional electric machines, batteries of Leyden jars, etc. The celebrated Gramme machine furnishes an inexhaustible source of electricity for experimental and illuminating purposes. In the department of heat there is a Melloni's apparatus, with all its accessories, and in that of sound a Koenig's phonautograph, a sonometer, and a set of organ pipes.

Within the past three years important additions have been made to the apparatus and appliances of the Laboratory. A room has been specially fitted up for the analysis of fertilizers, and other work contemplated by the Legislature in creating the office of State Chemist. The apparatus added includes a large amount of glass, porcelain and platinum ware, imported from Germany, and an improved polariscope, imported from Paris, the "Laurent grand modele" used in the French Customs, and in all official sugar work of the French government. The Purdue Laboratory affords to an industrious student good facilities for routine and original work.

The Laboratory is provided with reflecting and common goniometers, a full set of crystal models in glass, with colored silk-thread axes, and a set of wooden crystal models to illustrate modified forms. It is also provided with a respectable collection of minerals, suitable for illustration of physical properties and for use in chemical analysis.

CABINETS AND MUSEUM.

The Geological Cabinet embraces the following materials:

1. *Minerals.*—About two hundred species of minerals represented by cabinet specimens; working specimens of the majority. The ores of gold, silver, lead and iron, with their associated minerals, are well represented.

2. *Fossils.*—Specimens illustrating the life of the Silurian, Devonian and Carboniferous ages. Among the rest a fine set of crinoids from the Sub-carboniferous beds at Crawfordsville, and a number of beautifully preserved ferns from the coal measures of Indiana and Illinois, are to be noted.

3. *Archæology.*—An interesting collection of stone and flint implements of the pre-historic inhabitants of this country.

The Zoological Museum embraces the following collections:

1. *Marine Invertebrates.*—A series of 144 species, collected by the United States Fish Commission on the Atlantic coast, and presented by the Smithsonian Institution.

2. *Conchology.*—A large collection of land, marine and fluviatile shells, the latter chiefly of this vicinity, illustrating the form and growth of typical species of each group.

3. *Entomology.*—The "Scheuch Collection," consisting of 27 cases of Coleoptera, including seven thousand specimens and over two thousand species, collected chiefly in Southern Europe, elegantly mounted and correctly labeled, presented by Fred. Scheuch, Esq., of Lafayette, now United States Consul at Barcelona, Spain. Fourteen cases collected in this vicinity, mounted and named.

4. *Fishes.*—By the kindness of the Smithsonian Institution we have received sets of fishes collected on the Atlantic and Pacific slopes, in all one hundred and eleven species.

5. *Reptiles and Amphibians.*—A collection of these two classes preserved in alcohol, mostly species of this locality.

6. *Ornithology.*—About two hundred mounted birds, mostly from Indiana, and nearly one hundred skins suitable for study.

7. *Skeletons.*—Articulated skeletons representing most of the orders of vertebrates.

The Botanical Collection consists of—

1. An herbarium of over 2,000 species, mounted and labeled. It is specially full in the sets of grasses and sedges of this State, and ferns of the United States, each being nearly complete. A private herbarium of 1,500 species is also accessible to students.

2. A set of 300 economic products of plants, presented by Dr. G. L. Goodale, Director of Botanical Gardens, Cambridge, Mass.

3. A set of the woods of the United States, collected and presented by the Forestry Department of the Census Bureau. A set of native woods of this and adjoining counties, seeds, sections and moist preparations.

4. Microscope slides and alcoholic specimens.

The Peirce Conservatory furnishes an abundance of fresh material for illustration.

Donations to the museum have been received from many friends during the year.

INDUSTRIAL ART.

This department is supplied with (1) flat copies for outline drawing; (2) flat copies in light and shade for crayon work; (3) colored copies for water color painting; (4) flat copies for carpentry, architectural, and machine drawing; (5) charts to illustrate the botanical analysis of plants for purposes of design; (6) charts to illustrate analysis of historical ornament; (7) charts to illustrate harmony and contrast of color; (8) a great variety of geometrical solids, vases, and casts for model drawing; (9) samples of prints and other textile fabrics, wall paper, carpets, etc., to illustrate the application of design to manufactures; (10) appliances for modeling in clay; (11) a potter's wheel for turning pottery; (12) a kiln for burning small clay models and pieces of pottery; (13) an excellent selection of casts from ancient and modern sculpture, including busts of the Venus de Milo, Apollo de Belvidere, Diana, Psyche, Paris, Ajax, Michael Angelo, Raphael, and medium sized statues of Minerva, Psyche, Flora, and M. Angelo's Moses, etc. The Library also contains a number of very valuable books of reference and journals for the use of art students.

AGRICULTURE AND HORTICULTURE.

The means of illustration and practice in this department include the farm, containing about one hundred and fifty acres, the experimental ground of ten acres, with the Agricultural Hall previously mentioned, the Peirce Conservatory, with its large propagating house recently added, the campus, orchard, and nursery.

The experimental grounds contain a large number of varieties of grapes and small fruits, grains and grasses, for study and comparison; while the Agricultural Hall is made the meteorological station where instruments and records are kept, and where the taking of regular tri-daily observations familiarizes the students with the signal service work as carried on at regular stations. The Conservatory is well filled with choice plants, illustrating many families, and all the processes in floriculture are here carried on. The campus, nursery and orchard furnish ample means for observation and training in horticulture in other directions.

PRACTICAL MECHANICS AND ENGINEERING.

The tools and machines of the Mechanical Department have been selected with reference to the special work for which they are to be used, and all are of superior quality. When duplicates are provided different makers are represented. This increases the variety and the opportunities for study.

The shops are provided with the following appliances:

1. For bench work in wood, nine wood working benches with complete sets of carpenter tools for each.

2. For machine work in wood, five wood turning lathes, one double circular saw, one scroll saw, and one sorrento saw.

3. For vise work in iron, eight vises, with chisels, squares, calipers, etc., for each.

4. For forging, five forges, four of which are furnished with air blast by power. There is also an ample supply of hand and sledging tools.

5. For machine work in iron, three machine lathes, one speed lathe for centering and finishing, one machine planer with chuck and centers, one vertical drill, and a double emery grinder. There is also a supply of lathe chucks, drills, reamers, guages, scales, etc.

6. During the past year the department of Engineering has been presented by the Blake Pump Manufacturing Company, of Boston, Mass., with a fine steam pump for experimental purposes.

A considerable appropriation was made by the Board of Trustees at their last meeting, which will be expended during the summer in the purchase of additional apparatus for the department of Engineering.

REMUNERATIVE WORK IN THE SHOPS.

On Saturdays, and at other convenient times, opportunity will be given to those who are proficient in their class work, to add to their experience by making repairs, and in the construction of tools and appliances. For such work students receive compensation varying with the extent of time covered by their shop experience.

ENGLISH AND HISTORY.

The Department of English and History is fairly supplied with reference works. Those now in the University Library have been selected with care and with special reference to the purposes had in view in this Department.

Among the reference books, readily accessible to the students, are the following: Welsh's, Taine's, Chamber's, March's, and Shaw's English Literature; English Men of Letters (11 vols.); Hallam's Literature of Europe and Constitutional History of England (4 vols.); Freeman's Historical Essays; American Men of Letters (5 vols.); Allibone's Dictionary of Authors (3 vols.); Modern British Essayists (6 vols.); Buckle's History of Civilization in England (2 vols.); Draper's Intellectual Development of Europe; The Spectator (6 vols.); Harvard Shakspeare (20 vols.); Grote's History of Greece (12 vols.); Milman's and Mommsen's Rome (9 vols.); Motley's Dutch Republic (3 vols.); Greene's History of the English People (4 vols.); Guizot's France (6 vols.); Bryant's History of the United States (4 vols.); Rawlinson's Ancient Monarchies (5 vols.); Prescott's Works (16 vols.); four complete cyclopædias, and about two hundred other volumes, the works of standard authors in England and America.

The methods of instruction are such as to require frequent use of the library, the students being aided by references to author, volume and subject.

MATHEMATICS.

The department of Mathematics is furnished with a celestial globe twenty inches in diameter, and a terrestrial one of the same dimensions. An excellent engineer's level and an instrument combining in one a surveyor's compass, a transit and a theodolite, equip the surveying classes. The department is also supplied with a fine telescope (made by Alvan Clark & Sons, Cambridge, Massachusetts), with an aperture of four and a half inches, and focal distance of six feet. This instrument shows the satellites of Jupiter and the rings of Saturn, and dissolves many of the double stars and the principal nebulæ.

PREPARATORY DEPARTMENT.

The Preparatory Department is fully supplied with reference books, charts, maps, microscopes, etc. Among these are included a Universal Biographical Dictionary, a Universal Gazetteer, two of Webster's Unabridged Dictionaries (latest edition), Gould Brown's Grammar of English Grammars, Zell's Encyclopædia, Johnson's Encyclopædia (8 vols.), and Gray's Anatomy, all kept upon a reference table, to which the students are free to go at any time. There have been added to its apparatus complete sets of Guyot's largest physical maps, and Cutter's largest charts of human and comparative anatomy. To the library, for its use, there has been added a complete set (4 vols.) of Bryant's History of the United States, Draper's Civil War in America (3 vols.), Parkman's Conspiracy of Pontiac (2 vols.), Cooper's History of the Navy, Memoirs of Franklin (2 vols.), and Frothingham's Rise of the Republic of the United States. The other departments of the University and the library furnish abundant means for practical illustration in every line of study pursued in this department.

LIBRARY.

The Library occupies a commodious and well-lighted room, appropriately fitted and furnished. It contains a valuable collection of books of reference in each department, and a large number of miscellaneous works, many of standard value. The number of volumes in the Library, April 1, 1884, exclusive of pamphlets and unbound works, was 2,900.

The Reading Room is supplied with the following journals and periodicals, viz.:

Agricultural Gazette, American Agriculturist, American Bee Journal, American Grange Bulletin, American History Magazine of, American Journal of Science, American Machinist, American Microscopical Journal, American Naturalist, Art Amateur, Art Interchange, Art Journal, Art Magazine of, Atlantic Monthly, Blackwood's Magazine, Blacksmith and Wheelwright, Breeders' Gazette, British Quarterly Review, The Century, Chemical News, Country Gentleman, Decorator and Furnisher, Edinburgh Review, Education, Engineering, Gardener's Monthly, Harper's Monthly and Weekly, Indiana Farmer, Journal of Royal Microscopical Society, Locomotive, London Quarterly Review, Mechanics, The Nation, National Live Stock Journal, Nature, New England Farmer, New England Journal of Education, New York Weekly Tribune, Popular Science Monthly, Poultry World, Prairie Farmer, Princeton Review, Rural New Yorker, Science, Scientific American and Supplement, Watchman, Western Manufacturer, Westminster Review, and several daily papers.

SOCIETIES.

Four literary societies are open to students—the Irving, the Philalethean, the Carlyle, and the Periclean; the first and third for young men, the second for young women, and the fourth for the Preparatory Department students. The exercises consist principally of essays, declamations, debates, and orations, and are an efficient means of improvement in writing and speaking. The college societies have commodious halls, neatly carpeted and furnished.

A branch of the Young Men's Christian Association was organized by the students in 1880. It has held regular meetings, and has conducted Bible classes each Sabbath afternoon. During the past year a special class has been organized for Bible study on Sunday evenings.

EXPENSES, BOARDING, ETC.

EXPENSES.

Purdue University is a State Institution, and the tuition is therefore *free* to students who are residents* of the State of Indiana. The expense for board and for incidentals incurred in attending Purdue University are very low. It is believed that few institutions afford equal advantages, at as low a cost.

The charges for the year 1884–85 will be as follows:

Entrance fee in College, per year	$5 00
Entrance fee in Preparatory Department, per term, $2; per year	5 00
Incidental fee in all departments, per term	3 00
Chemicals and gas for course in Chemistry, per term	5 00
Table board per week not exceeding†	2 50
Room-rent, heat and light, per week	50
Washing, per dozen, not exceeding†	75

From the above it is seen that a student's expenses for thirty-eight weeks in the College will be as follows:

Entrance and incidental fees	$14 00
Table board (at $2.50 per week)	95 00
Room, heat, and light	19 00
Washing, about	12 00
Total for the year, about	$140 00

All bills must be paid *in advance*, entrance and incidental fees at the beginning of the term or year, and room-rent at the beginning of each term. A *pro rata* part of all fees paid in advance will be refunded to students who are withdrawn on account of sickness.

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*Persons residing outside of the State of Indiana, who desire to attend Purdue University, will apply to the President of the Faculty for information concerning terms, etc.

†The Boarding House and Laundry are kept by Mrs. G. Stockton, to whom all bills are paid.

Students taking a course in Chemistry are required to deposit with the Registrar five dollars a term in advance as a breakage fund. The money that is not used will be refunded at the close of the term.

YOUNG MEN'S DORMITORY.

The Young Men's Dormitory is, by a recent order of the Board of Trustees, hereafter to be reserved for the use of appointed students, with the *proviso* that other students who have already acquired Dormitory privileges may, at the discretion of the President, be permitted to occupy rooms in the Dormitory for the year 1884–5, and thereafter, unless otherwise ordered by the Board.

The young men occupying rooms in the Dormitory are required to keep them in good order and to observe all other rules governing their occupancy. A failure to observe such rules, or other disorderly conduct, forfeits a student's right to a room. No firearms are allowed to be kept in the rooms. The occupants of rooms are held responsible for all injury to the same or to furniture and fixtures therein, and all gas burned after ten o'clock is charged extra. As a condition of occupying a room, a student must deposit with the Registrar five dollars, as a fund to pay for breakage, extra gas, and other fines. When he withdraws from the Dormitory, or at the close of the year, so much of this money as is not required to pay charges will be refunded. Members of the Freshman and Sophomore classes, and of the Preparatory, who occupy the Dormitory, are not allowed to visit the city of Lafayette in the evening, except by permission.

Each suite of rooms in the Dormitory is furnished with bedsteads, washstands and sets, and tables and chairs. Mattresses and bedding, towels, soap, mirrors, brooms, etc., are furnished by students. Young men occupying rooms may procure table-board at the Boarding House, or elsewhere, as they may prefer, but self-boarding in the Dormitory is not allowed. Boarders will not be received at the Boarding House for less than a term, but permission to leave will be granted by the President, if the board is not satisfactory.

THE LADIES' HALL.

The young ladies occupying rooms in the Ladies' Hall, are required to keep them in good order and to observe all rules governing their occupancy. Gas consumed after ten o'clock, and the cleaning of rooms while occupied, will be charged extra. The rooms are neatly carpeted, and are furnished with bedsteads and mattresses, washstands and sets, tables and chairs. The occupants furnish bedding, towels, mirrors, etc. The young ladies who occupy rooms are under the personal supervision of a lady member of the faculty. Only twenty young ladies can be accommodated with rooms.

PRIVATE BOARD.

Students who may not wish to board in the University can obtain board in private families in Chauncey, at reasonable rates. Good accommodations for self-boarding, or for club-boarding, can also be secured in Chauncey, and the cost of board, not including room, may thus be reduced to $2.00 or $2.25 per week. A good sidewalk extends from the University to the village.

STUDENTS APPOINTED BY COUNTY COMMISSIONERS.

A law passed March 12, 1877, gives the Board of Commissioners of each county of Indiana the authority to appoint two students, residents of the county, to Purdue University, and the students thus appointed are exempt from the payment of entrance and incidental fees, and the regular charges for room, heat and light. The reduction thus provided for amounts to $33 a year, or about one-fifth of all necessary expenses of a student. Sixty-nine of the students in attendance the present year were appointed. The students appointed must reside in the county in which the appointment is made. For the law, see page 80.

WORK.

The farm is cultivated with improved implements, and hence there is but little work which can be done by students. The teams must be handled and cared for by regular hands. About the only assistance which students can render is in harvesting the fall crops and in the care of stock; and this work, as well as that needed on the University grounds, in the nursery, orchard and green-house, and in the experimental field, is chiefly done by *the students taking the Agricultural Course.* The amount of other work to be done by the students is very limited, and no one should come to the University depending upon work, if he has not previously made a successful application for it. Students taking the Mechanical Course have an opportunity to do a limited amount of extra work.

APPLICATIONS.

Application for admission to any department of the University should be made to the President, and prior to the opening of a year or term, when this is practicable. In making application by letter, applicants are requested to give their age, the studies which they have pursued, and a general idea of their attainments. A catalogue will be sent to any address, on application. Address, President of Purdue University, Lafayette, Indiana.

CALENDAR FOR 1884-5.

FIRST TERM.

The first term, fifteen weeks, begins Thursday, September 11, 1884, and ends Friday, December 19, 1884.

SECOND TERM.

The second term, twelve weeks, begins Tuesday, January 6, 1885, and ends Friday, March 27, 1885.

THIRD TERM.

The third term, eleven weeks, begins Monday, March 30, 1885, and ends Thursday, June 11, 1885.

COMMENCEMENT, THURSDAY, JUNE 11, 1885.

EXHIBITIONS.

The annual entertainments of the Literary Societies are held the second week of the third term.

CALENDAR FOR 1884-85.

Session days are indicated by bold-face figures.

1884—JULY TO DECEMBER.

JULY.

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST.

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SEPTEMBER.

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	**11**	**12**	13
14	**15**	**16**	**17**	**18**	**19**	20
21	**22**	**23**	**24**	**25**	**26**	27
28	**29**	**30**				

OCTOBER.

			1	**2**	**3**	4
5	**6**	**7**	**8**	**9**	**10**	11
12	**13**	**14**	**15**	**16**	**17**	18
19	**20**	**21**	**22**	**23**	**24**	25
26	**27**	**28**	**29**	**30**	**31**	

NOVEMBER

						1
2	**3**	**4**	**5**	**6**	**7**	8
9	**10**	**11**	**12**	**13**	**14**	15
16	**17**	**18**	**19**	**20**	**21**	22
23	**24**	**25**	**26**	**27**	**28**	29
30						

DECEMBER.

	1	**2**	**3**	**4**	**5**	6
7	**8**	**9**	**10**	**11**	**12**	13
14	**15**	**16**	**17**	**18**	**19**	20
21	22	23	24	25	26	27
28	29	30	31			

1885—JANUARY TO JUNE.

JANUARY.

S	M	T	W	T	F	S
				1	2	3
4	5	**6**	**7**	**8**	**9**	10
11	**12**	**13**	**14**	**15**	**16**	17
18	**19**	**20**	**21**	**22**	**23**	24
25	**26**	**27**	**28**	**29**	**30**	31

FEBRUARY.

S	M	T	W	T	F	S
1	**2**	**3**	**4**	**5**	**6**	7
8	**9**	**10**	**11**	**12**	**13**	14
15	**16**	**17**	**18**	**19**	**20**	21
22	**23**	**24**	**25**	**26**	**27**	28

MARCH.

S	M	T	W	T	F	S
1	**2**	**3**	**4**	**5**	**6**	7
8	**9**	**10**	**11**	**12**	**13**	14
15	**16**	**17**	**18**	**19**	**20**	21
22	**23**	**24**	**25**	**26**	**27**	28
29	**30**	**31**				

APRIL.

			1	**2**	**3**	4
5	**6**		**8**	**9**	**10**	11
12	**13**	**14**	**15**	**16**	**17**	18
19	**20**	**21**	**22**	**23**	**24**	25
26	**27**	**28**	**29**	**30**		

MAY.

					1	2
3	**4**	**5**	**6**	**7**	**8**	9
10	**11**	**12**	**13**	**14**	**15**	16
17	**18**	**19**	**20**	**21**	**22**	23
24	**25**	**26**	**27**	**28**	**29**	30
31						

JUNE.

	1	**2**	**3**	**4**	**5**	6
7	**8**	**9**	**10**	**11**	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Historical Sketch of Purdue University.

Purdue University had its origin in the Act of Congress of July 2, 1862, which "donated public lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts." The national grant was accepted by the State of Indiana, March 6, 1865, and a Board of Trustees, with the corporate name of "The Trustees of the Indiana Agricultural College," was organized for the management of the trust funds. This Board consisted of Governor Morton (*ex-officio* President), Alfred Pollard, of Gibson; Smith Vawter, of Jennings; Henry Taylor, of Tippecanoe, and Lewis Burke, of Wayne. Prior to the first meeting of the Board, held October 20, 1865, Mr. Pollard removed from the State, and Isaac Jenkinson, of Allen, was elected his successor. John J. Hayden, of Marion, was elected Secretary of the Board, and James E. Reeves, of Wayne, Treasurer. Mr. Reeves resigned May 1, 1866, and was succeeded by E. B. Martindale, of Indianapolis. The Board so constituted remained without a change in membership until March 7, 1870.

It was this Board that received the land script, amounting to 390,000 acres, and, April 9, 1867, sold it for $212,238.50. By careful and wise management, this endowment fund has been increased to $340,000, invested in a non-negotiable Indiana State bond, bearing five per cent. interest, payable quarterly. This Board also located the University, as stated below.

The act of 1865 made no provision for the location or the organization of the College. Governor Morton's special message to the General Assembly was followed by a strong rivalry between several places desiring the College, and the general sessions of 1863, 1865, 1867 and 1869 failed to settle the location. At the special session in 1869, an act was passed, May 6, accepting a donation of $150,000 by John Purdue, on specified conditions; a donation of one hundred acres of land, appurtenant to the institution, by citizens of Chauncey; a donation of $50,000 by Tippecanoe county, and donations by the Trustees of the Battle Ground Institute, and by the Trustees of the Battle Ground Institute of the M. E. Church, both made on the condition that the College be located at Battle Ground. This act located the institution in Tippecanoe county, at such point as the Trustees might determine before January 1, 1870, gave it the name of Purdue University, and provided for its organization and management. The location of the University was definitely fixed by the Trustees, December 22, 1869.

In March, 1870, the Board was partially reorganized. M. L. Peirce, of Lafayette, succeeded Mr. Jenkinson; Rev. Thomas Bowman, of Greencastle, Mr. Vawter; Dr. Joseph F. Tuttle, of Crawfordsville, Mr. Lewis Burke (resigned); and John Purdue became a Trustee by the act of the Legislature. Mr. Peirce was elected both Secretary and Treasurer, succeeding Messrs. Hayden and Martindale (resigned). In November, 1870, Dr. Tuttle and Henry Taylor resigned, and were respectively succeeded by John R. Coffroth and John A. Stein, both of Lafayette. In January, 1871, Mr. Stein was elected Secretary of the Board, and, by subsequent re-elections, Mr. Peirce has been continued Treasurer and Mr. Stein, Secretary.

An act passed January 31, 1871, increased the number of Trustees to nine, including the Governor (*ex-officio* member and President of the Board), and provided that three of the Trustees should be members of the State Board of Agriculture, to be appointed by the Governor, on the recommendation of the State Board. The three Trustess appointed under this law, were I. D. G. Nelson, of Fort Wayne; John Sutherland, of Laporte, and L. A. Burke, of New Harmony. The Board was constituted as follows: Governor Baker, *ex-officio* President; John A. Stein, Secretary; Martin L. Peirce, Treasurer; John Purdue, John R. Coffroth, I. D. G. Nelson, Thomas Bowman, John Sutherland and L. A. Burke. This Board, with the changes in its membership, hereafter noticed, purchased the present site of the University, planned and constructed the first buildings (the main building excepted), and made provisions for the opening of the institution.

Governor Hendricks succeeded Governor Baker in 1873. Dr. Bowman resigned in May, 1873, and was succeeded by Judge H. P. Biddle, of Logansport, who resigned in November following, and was succeeded by Col. B. C. Shaw, of Indianapolis, who resigned in October, 1874. Mr. Nelson resigned in 1874, and was succeeded by Austin B. Claypool, of Connersville. Mr. Burke resigned in June, 1874, to accept the position of Farm Superintendent.

THE OPENING OF THE UNIVERSITY.

In 1872, the Board expected to open the University the following year, and Prof. Richard Owen, of the State University, at Bloomington, was elected President (August 13, 1872,) and Prof. John S. Hougham was appointed to a professorship. President Owen was to enter upon his duties upon receiving a three months' notice, but Professor Hougham entered at once into the service of the Board.

President Owen resigned March 10, 1874, and Supt. A. C. Shortridge, of Indianapolis, was elected his successor, June 12, 1874. To comply with the Act of Congress, which required the institution to be opened as early as July, 1874, Professor Hougham took charge of a class March 2, 1874, and gave instruction until June. The University was formally opened September, 17, 1874, with the following Faculty: A. C. Shortridge, President; John S. Hougham, Professor of Physics and Industrial Mechanics; W. B. Morgan, Professor of Mathematics and Engineering; John Hussey, Professor of Botany and Horticulture; H. W. Wiley, Professor of Chemistry, and Eli F. Brown, Professor of English Literature and Drawing.

The plan of organization adopted by the Board of Trustees was based on the theory of special education, and the instruction of the University was distributed among the following Special Schools: I. School of Natural Science, including (*a*) Physics and Industrial Mechanics, (*b*) Chemistry, (*c*) Natural History; II. School of Engineering, including (*a*) Civil Engineering, (*b*) Mining Engineering, (*c*) Architecture; III. School of Agriculture, including (*a*) Theoretical and Practical Agriculture, (*b*) Horticulture, (*c*) Veterinary Science; IV. School of Military Science. Detailed courses of study were adopted and announced in Agriculture, Chemistry, Engineering, Physics, and Mechanical Engineering.

The University was conducted on this plan of special education for two years, but there seemed to be little demand for the special courses of instruction provided. The only special students received entered the School of Chemistry, and most of these were in the preparatory branches in other studies. Nearly all the students entered the preparatory classes.

At the close of the first year Mrs. Sarah A. Oren was appointed Professor of Botany, and Professor Hussey was transferred to the added chair of Latin and Modern Languages.

An act passed by the Legislature March 9, 1875, provided for the reorganization of the Board of Trustees. It reduced the number of Trustees to six, two to be nominated by the State Board of Agriculture, one by the State Board of Horticulture, and three to be selected and appointed by the Governor. It also provided that the Secretary and Treasurer should not be members of the Board. The law took effect August 24, 1875, and the Board was reorganized August 31, 1875, as follows:

JOHN R. COFFROTH, President, appointed by the Governor.

MAHLON D. MANSON, appointed by the Governor.

REUBEN WELLS, appointed by the Governor.

JOHN SUTHERLAND, nominated by the State Board of Agriculture.

ROBERT P. HAYNES, nominated by the State Board of Agriculture.

JOSEPH C. RATLIFF, nominated by the State Horticultural Society.

President Shortridge resigned November 5, 1875, to take effect December 31, 1875, and Professor Hougham became Acting President. E. E. White was elected President February 17, 1876, and entered on the duties of the office May 1, 1876. President White resigned in March, 1883, to take effect August 31, 1883. James H. Smart was elected President in June, 1883, and entered on his duties August 25, 1883.

REORGANIZATION.

At the meeting of the Board of Trustees, held in June, 1876, President White submitted the plan of organization on which the University has since been conducted. The plan was unanimously approved by the Board.

The University was divided into three departments—the College of General Science, Special Schools of Science and Industry, and the University Academy. The College was first organized with but one course of study, the Scientific Course, so arranged as to be a general preparation, not only for all industrial pursuits, but for the courses in the Special Schools.

In 1879 the College was made to embrace three courses—the Scientific Course, the Agricultural Course, and the Mechanical Course—and the Special School of Agriculture, with its "Experimental Station," and the School of Mechanics, with its workshop, were put into successful operation. It required four years "to work out" the plan outlined in 1876.

The Faculty, as reorganized in 1876, was constituted as follows: E. E. White, President and Professor of English Literature; H. W. Wiley, Professor of Chemistry and Physics; John Hussey, Professor of the Natural History Sciences; David G. Herron, Professor of Mathematics and Engineering; Edward P. Morris, Instructor in Latin and History; Walter L. Dean, Instructor in Industrial Art; R. F. H. Weyher, Instructor in German; George R. Chase, Principal of the Academy, and Sarah A. Oren, Assistant Principal of the Academy.

In 1877 Charles E. Lambert succeeded Professor Morris; Langdon S. Thompson succeeded Professor Dean, and Edward E. Smith succeeded Principal Chase. In 1878 Olivia T. Alderman succeeded Mrs. Oren, and in 1879 John A. Maxwell succeeded Professor Lambert. In 1879 Charles L. Ingersoll was appointed Professor of Agriculture and Horticulture, and William F. M. Goss, Instructor in Mechanics. In September, 1880, Charles R. Barnes succeeded Professor Hussey, resigned, and Miss Edna D. Baker succeeded Mrs. Herron, *nee* Miss Alderman, resigned. In September, 1881, John A. Maxwell assumed the duties of the new chair of English and History; Miss Annie L. Peck entered upon her duties as Instructor in Latin; Guilford L. Spencer as Assistant Chemist; and in November Lieutenant W. R. Hamilton, United States Army, as Instructor in Military Tactics. In July, 1882, Professor Ingersoll resigned the chair of Agriculture and Horticulture, and in August William C. Latta entered on his duties as Instructor in Agriculture and Horticulture and Farm Superintendent. In September Lieutenant Hamilton was appointed Instructor in Engineering and Military Tactics; Walter H. Peters, Assistant Chemist, and Jessie F. Thompson, Assistant Instructor in Industrial Art. Miss Eulora Miller was appointed Librarian in 1878, and reappointed in 1879; and in August, 1880, Moses C. Stevens was appointed Registrar and Librarian.

On September 6, 1883, the University opened with the following Faculty:

James H. Smart, President, Professor of Political Economy and Psychology; Langdon S. Thompson, Professor of Industrial Art, and Secretary of the Faculty; Charles R. Barnes, Professor of Botany, Zoology and Geology; Edward E. Smith, Professor of English and History; William F. M. Goss, Professor of Practical Mechanics; Moses C. Stevens, Professor of Mathematics; William C. Latta, Professor of Agriculture and Horticulture, and Farm Superintendent; Albert W. Stahl, Professor of Physics and Mechanical Engineering; Robert B. Warder, Professor of Chemistry, and State Chemist; Oscar J. Craig, Principal of Academy; Edna D. Baker, Instructor in Academy, and Matron of Ladies' Hall; Richard W. Swan, Librarian and Registrar. Employes: William H. Ragan, Horticulturist, and Superintendent of State Meteorological Station; Louis Bianchi, Engineer and Superintendent of Buildings; Robert G. Elliott, Florist and Gardener; William O. Fritz, Foreman of Farm; Patrick Tracey, Janitor.

In November, 1883, Joseph E. Clapper was appointed an Assistant in the Department of Practical Mechanics. Mr. Clapper resigned April 1, 1884, and Elroy A. Dillon was appointed his successor.

January 1, 1884, John Pursell was appointed Assistant in Wood Carving. Mr. Pursell resigned in March, 1884.

The following changes have occurred in the Board of Trustees since the reorganization in 1875: John R. Coffroth resigned December 21, 1877, and was succeeded by John C. Dobelbower, of Lafayette. Gen. M. D. Manson succeeded Mr. Coffroth as President of the Board. Gen. Manson resigned January 20, 1879, to enter on the duties of Auditor of State, and John S. Williams, of Lafayette, was appointed his successor. Mr. Sutherland succeeded General Manson as President of the Board, and in June, 1881, Joseph C. Ratliff succeeded Mr. Sutherland as President. In March, 1881, William H. Ragan, of Hendricks county, succeeded Mr. Sutherland, and Jacob Mutz, of Johnson county, succeeded Mr. Haynes. In April, 1881, Charles R. Peddle, of Vigo county, succeeded Mr. Wells, resigned, and in September, 1881, Alfred P. Edgerton, of Fort Wayne, succeeded Mr. Dobelbower. In March, 1883, Samuel Hargrove, of Pike county, succeeded Mr. Mutz, resigned.

In September, 1883, William A. Banks, of Door Village, succeeded William H. Ragan.

The act of 1865 provided that if Mr. Purdue should cease to be a member of the Board, he should be continued as an Advisory Trustee during his lifetime. His trusteeship expired in 1875, and he then served the University as Advisory Trustee until his death, which occurred September 12, 1876.

STATE APPROPRIATIONS.

In 1873 the Legislature made an appropriation of $60,000 to Purdue University for the erection of a college building, the purchase of apparatus, the improvement of grounds, and other purposes—$30,000 to be paid June 1, 1873, and $30,000 June 1, 1874.

In 1875 the Legislature appropriated $10,000 for physical, mechanical, chemical and engineering apparatus; $4,000 for farm-house and barn; $4,000 for stock, agricultural implements, farming utensils, etc.; and $2,000 for library, etc. One-half of each appropriation was paid in 1875 and one-half in 1876.

In 1877 the Legislature appropriated $5,000 for payment of indebtedness incurred in 1876; $4,500 for allowances to trustees and officers ($1,500 in 1877, $1,500 in 1878, and $1,500 in 1879); $5,000 for apparatus, machinery, cabinets and fixtures; $2,000 for books and periodicals; and $3,000 for stock, experiments in agriculture, and improvement of grounds. One-half of each of the last three appropriations was paid in 1877 and one-half in 1878.

In 1879 $4,000 was appropriated for current expenses; $4,000 for machinery and improvements, and for School of Agriculture, including agricultural experiments, and $1,000 for library—one-half of each appropriation to be paid in 1879 and one-half in 1880.

In 1881 the Legislature appropriated $20,000 for the fiscal year beginning November 1, 1881, and $20,000 for the fiscal year beginning November 1, 1882, each appropriation to be expended for University purposes, at the discretion of the Board of Trustees.

I.. 1883 an appropriation of $40,000 for University purposes for the two years commencing November 1, 1883, received the approval of both branches of the Legislature, but the failure of the General Appropriation Bill deprived the Institution of this amount.

STUDENTS' LAW.

AN ACT authorizing the appointment of students to Purdue University by the Board of Commissioners of each county, and to provide for the admittance of such scholars, and defining their privileges therein.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana*, That the Board of Commissioners of each county in this State may appoint in such manner as they may choose, two students or scholars* to Purdue University, who shall be entitled to enter, remain and receive instruction in the same, upon the same conditions, qualifications and regulations prescribed for other applicants for admission to, or scholars in said University: *Provided, however*, That every student admitted to said University by appointment by virtue of this act, shall in no wise be chargeable for room, light, heat, water, tuition, janitor or matriculation fees, and said students shall be entitled in the order of admittance to any room in the University then vacant and designed for the habitation or occupancy of a student, and such student so admitted, shall have prior right to any such room, subject to the rules of the University, over any student not appointed and admitted as aforesaid.

SEC. 2. That no more than two students at the same time, from any county, shall be entitled to admittance to said University under provisions of this act; but the Board of Commissioners of each county may, from time to time, appoint as aforesaid to any vacancy in their appointments.

SEC. 3. Whereas, an emergency exists for the immediate taking effect of this act, the same shall be in force from and after its passage.

Approved March 12, 1877.

J. D. WILLIAMS, *Governor*.

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*The Attorney General of the State has decided that the persons appointed must be residents of the county in which the appointment is made.

APPENDIX.

SCHOOL OF PHARMACY.

FACULTY.

JAMES H. SMART, A. M., LL. D.,
President of the University.

ROBERT B. WARDER, A. M., B. S.,
Professor of Chemistry.

JOHN N. HURTY, M. D.,
Professor of Pharmacy.

ALEMBERT W. BRAYTON, M. S., M. D.,
Professor of Materia Medica and Toxicology.

CHARLES R. BARNES, A. M.
Professor of Botany.

ANNOUNCEMENT.

The School of Pharmacy is established by the Trustees of Purdue University in response to the growing demand for a thorough practical and theoretical training in Pharmacy and related branches. The University has been steadily developing its plans and facilities for industrial education. In view of the number of citizens employed in the compounding of medicines, this must be regarded as an important industry; when the public health is considered, correct pharmaceutical practice is a matter which concerns every citizen; yet no opportunity has yet been open in the State to gain a pharmaceutical education. Purdue University already has large and convenient laboratories for chemistry and botany, with all the necessary appliances and materials for instruction and for research. With the instruction in Pharmacy and Materia Medica now added, including both lectures and practical exercises in pharmaceutical manipulation, the student will find ample facilities for a thorough course of training, which will compare well with the opportunities offered in the other Schools of Pharmacy.

Until recently the usual School of Pharmacy in the United States consisted essentially of *lecture courses* on Chemistry, on Pharmacy, and on Materia Medica and Botany, about forty lectures being given by each of the three professors in a five months' course; but each student was required to have about four years' practical experience in a dispensing pharmacy before graduation. Under this system a large amount of practical experience was required, and but a limited amount of college training. One or two institutions have recently made an innovation upon this system. They have required a very much larger amount of college work, including lectures and laboratory manipulations, but have required little or no practical experience in the dispensing or the manufacturing pharmacy for either admission or graduation.

The authorities of Purdue University have endeavored to combine the advantages of both systems in their scheme, and, therefore, have required a considerable amount of practical experience for admission, with a larger amount for graduation; and, at the same time, have provided a larger amount of college work than has been heretofore usually offered in schools of pharmacy. It is thus expected to maintain a school of a high degree of excellence, which should, therefore, secure the hearty good will and support not only of the pharmacists, but also of the people of the State.

As far as practicable, the general plan will conform to that of existing schools of pharmacy, but more than the usual amount of laboratory practice will be required. The instruction will include a junior and a senior course of twenty weeks each, but the junior course only will be given in 1884–85. Students who show marked diligence will be allowed to remain in the University during the whole of the college year, without extra charge for tuition, to pursue a supplementary course in chemistry, botany and other subjects.

Women will be admitted on the same conditions as men.

The course of study will be essentially that outlined below.

JUNIOR COURSE.

The following course may be extended if necessary. *The student's entire time will be occupied.* The instruction in the lecture-room and laboratory will not be less than twenty-two hours per week; and additional laboratory work will be afforded to all students who are able to take it. Examinations will be held at such times as the Faculty may determine. Students who complete the junior course, passing all the required examinations, will receive a certificate of this fact.

CHEMISTRY.

Four lectures and four laboratory exercises per week will be required, each laboratory exercise lasting at least two hours.

The preparation and properties of the more important elements and their compounds will be considered in the lectures, with ample experimental illustrations. Due attention will be given to the practical applications of chemistry in medicines and elsewhere. Chemical philosophy will be gradually introduced, as the student acquires a sufficient variety of facts from which to generalize.

An outline of the chemistry of carbon compounds, including the more prominent constituents of plants and animals, will also be included.

The laboratory exercises will begin with a study of non-metals (simple and combined), metals and salts. Qualitative analysis will then be continued through the junior course, including detection of poisons, and tests for adulterations in inorganic drugs.

Frequent quizzes will be a marked feature of instruction.

PHARMACY.

Two lectures and two laboratory exercises per week.

The following topics will be considered in the lectures: The Pharmacopœias, weights and measures, specific gravity, apparatus and manipulations for generating, regulating, and applying heat, comminution, sifting, solution, elutriation, filtration, clarification, maceration, infusion, digestion, percolation, evaporation, distillation, precipitation, crystallization, and the preparation of inorganic medicinal chemicals. Each student will also have practical laboratory work in pharmaceutical manipulations, such as comminution, percolation, and distillation, and will be trained in the preparation of extracts, tinctures, sirups, pills, ointments, etc., and in the compounding of medicines.

BOTANY.

Required Course.

This course in Botany includes the study of the gross anatomy of typical plants and their organs, with special reference to homology. At suitable periods during this study, lectures upon anatomy and physiology will be given. The subjects of food, assimilation and metastasis, growth, fertilization, influence of light and temperature, movements, etc., are treated as nearly as possible in connection with the organs with which they are most intimately associated.

Optional Courses.

1. Microscopic Anatomy.—This includes a study of isolated cells, the cell-wall, cell contents (protoplasm, chlorophyll, starch, etc.,) union of cells into tissues, and the aggregation of these tissues into systems. Subsequently, the minute anatomy of a few typical plants will be studied. Special attention will be given to those parts of plants in which medicinal substances are commonly found. Students will, in addition to the botanical training, gain a valuable facility in the use of the compound microscope.

2. Systematic Botany.—The spring term may be spent in determining the names of the common wild flowering plants and a study of their gross anatomy. Instruction in methods of collecting and preserving plants will be given.

As far as possible, medicinal plants will be used for illustrative study in the laboratory, both in the required and optional courses.

SENIOR COURSE.

Chemistry, Pharmacy, Materia Medica, and Toxicology will be taught. The study of organic officinal preparations and of chemical analysis will be more extended than in the Junior Course, and full instruction will be given on the subject of Materia Medica by lectures and the examination of specimens. Detailed announcements will be made in 1885.

ADMISSION TO JUNIOR CLASS.

Applicants having a good common-school education, who present satisfactory certificates that they have had practical experience of twenty-four months in a dispensing pharmacy or manufacturing pharmaceutical laboratory under the guidance of a reliable and competent pharmacist, will be admitted without examination. Others who have had superior advantages, but for a less time than two years, will be admitted, provided they give evidence by examination or otherwise, that they are qualified to take the Junior Course.

ADMISSION TO SENIOR CLASS.

Students who have passed satisfactory examinations on all the studies of the Junior Course in this or some other recognized School of Pharmacy, will be admitted to the Senior Class. But since many schools require no laboratory work, those who come from other schools must give proof of such laboratory training as may be necessary to pursue all the Senior studies successfully. More specific requirements will be announced next year.

GRADUATION.

The degree of Graduate in Pharmacy (Ph. G.) will be conferred upon each student not less than twenty-one years of age, who successfully completes the required course, presents a satisfactory thesis, and furnishes evidence of having had a practical experience of forty-two months in a dispensing pharmacy under the guidance of a competent and reputable preceptor; but the time spent in the School of Pharmacy may be included in this term of service. Besides the examinations on the lectures, an examination in practical pharmacy, proving the candidate's familiarity with such details as are best learned behind the counter, will be required for graduation.

Those who complete the Senior Course, passing all examinations upon the course of instruction, who are under twenty-one years of age, or have not fulfilled the requirements of practical experience in a dispensing pharmacy, may return for examination in pharmaceutical practice and for the usual diploma, after complying with the prescribed conditions.

APPLIANCES.

Purdue University is well equipped with lecture rooms, laboratories, museums, and apparatus. Each student in chemistry has his own table with reagents and keeps his apparatus under lock and key. The needed supplies are furnished at the lowest possible prices. Percolators, mortars, and other pharmaceutical utensils will be provided. Students in botany have the free use of simple and compound microscopes. An herbarium of over two thousand species, mounted and labelled, and a set of three hundred economic products of plants, are in the University collection. An effort will be made to secure a full and instructive collection of materia medica. The Library contains one hundred and forty volumes, specially relating to chemistry and pharmacy. The Reading-room is open to students about eight hours per day. The Annual Register of Purdue University, containing full information of the various courses, buildings, laboratories, and museums, will be sent on application.

TEXT BOOKS.

The following text books (the latest editions) will be used. Each student of the Junior course will, at least, provide himself with those indicated by italics. Others will be duly announced:

Chemistry. *Attfield.*

Pharmacy. *Parrish.*
U. S. Pharmacopœia.

Materia Medica. U. S. Dispensatory.
National Dispensatory.
Maish's Organic Materia Medica.

Botany. *Gray's Lessons.*
Bessey's Botany (for course in microscopic anatomy).
Gray's Manual (for course in systematic botany).

EXPENSES.

Instruction is free, and the expenses are, therefore, far less than in the majority of similar schools; while unusual facilities are afforded for laboratory practice.

The fees are as follows, payable in advance, for each course of twenty weeks:

Matriculation	$10 00
Incidentals	8 00
Chemicals and gas	10 00

There will also be charges for breakage, for which a laboratory deposit of ten dollars is required.

Good board and lodging may be had for about three dollars and a half per week. One hundred and twenty-five dollars should cover the total expense of board, room-rent, fees, books, etc., for twenty weeks.

Correspondence may be addressed to

School of Pharmacy,
Purdue University,
Lafayette, Ind.

CALENDAR OF SCHOOL OF PHARMACY.

September 23, 1884. Lectures begin in the School of Pharmacy.

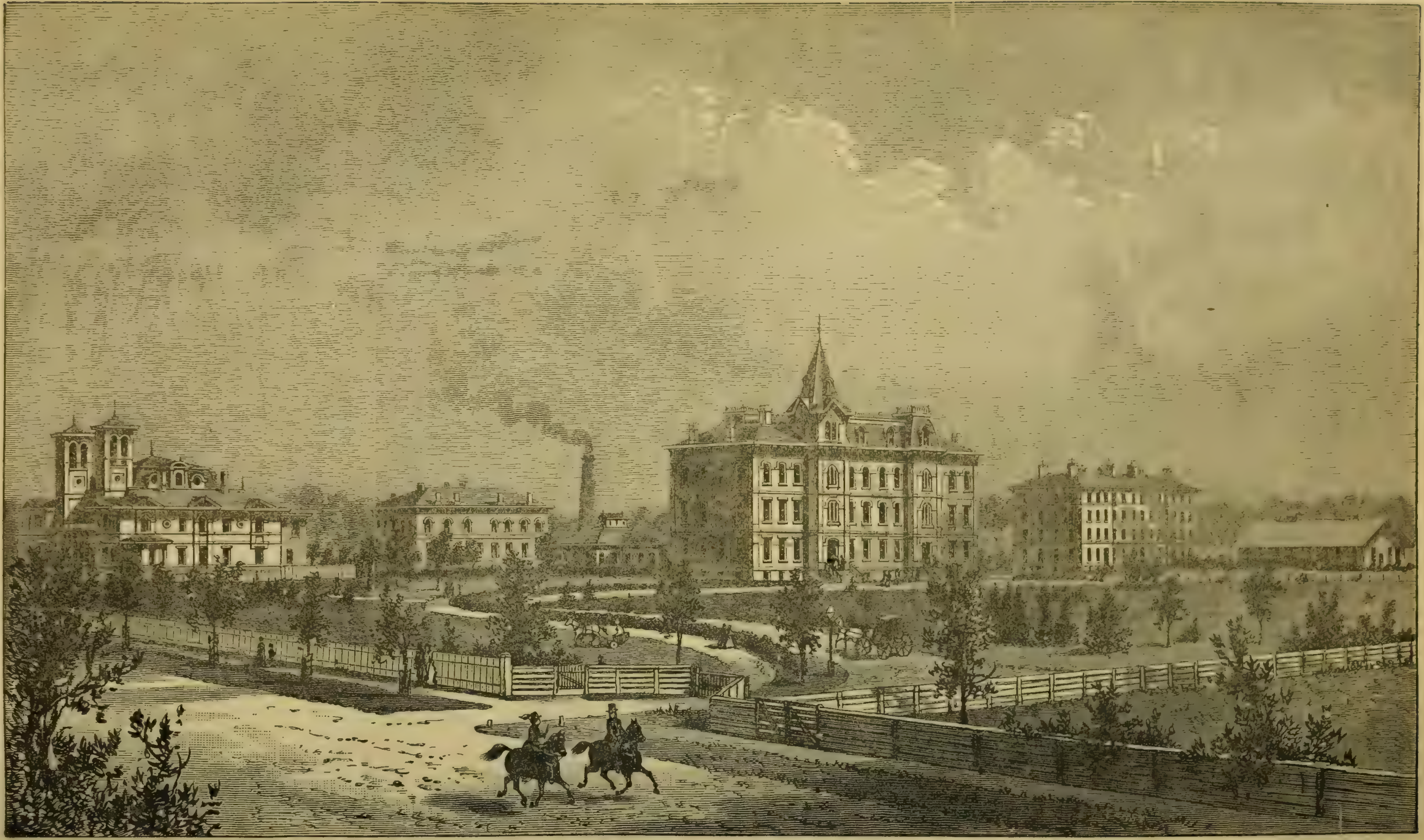
December 20, 1884, to January 5, 1885. Christmas holidays.

February 9. Close of session in School of Pharmacy.

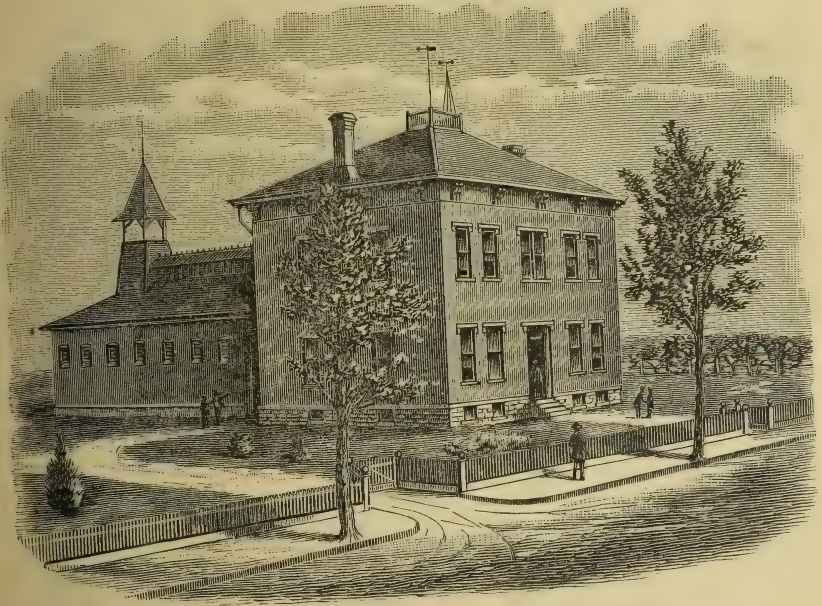
All Applications should be made early, and must be accompanied by explicit certificate of pharmaceutical experience.

All students should present themselves at 9 A. M., on September 23.

Place opposite


Boarding House.
Industrial Art Hall.
Ladies' Hall.
Laboratory.
Mechanics' Shop.
Engine House.
University Hall.
Men's Dormitory.
Military Hall.

PURDUE UNIVERSITY, LAFAYETTE, IND.



AGRICULTURAL HALL.

THE

ELEVENTH ANNUAL REGISTER

OF

PURDUE UNIVERSITY.

LAFAYETTE, IND.

1884-85.

INDIANAPOLIS:
Wm. B. Burford, Contractor for State Printing.
1885.

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FACULTY.

JAMES H. SMART, A. M., LL. D., PRESIDENT,
Professor of Political Economy.

LANGDON S. THOMPSON, A. M.,
Professor of Industrial Art.

CHARLES R. BARNES, A. M.,
Professor of Botany, Zoology and Geology.

EDWARD E. SMITH, A. B., B. S.,
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ROBERT B. WARDER, A. M., B. S.,
Professor of Chemistry, and State Chemist.

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Professor in Charge of Preparatory Class.

FLORA E. WEED,
Instructor Preparatory Class, and Matron of Ladies' Hall.

HENRY L. OSBORN, A. M., Ph. D.,
Professor of Zoology.

JAMES TROOP, M. S.,
Professor of Horticulture and Entomology.

HENRY A. HUSTON, A. M., A. C.,
Professor of Physics and Superintendent State Weather Service.

JOHN N. HURTY, M. D.,
Professor of Pharmacy.

F. M. WEBSTER,
U. S. Bureau of Entomology, Economic Entomology.

RICHARD W. SWAN, A. M.,
Librarian and Registrar.

ASSISTANTS.

MICHAEL GOLDEN,
Assistant in Practical Mechanics.

HENRY A. HUSTON, A. M., A. C.
Assistant State Chemist.

*MARY SMITH,
Assistant in Mathematics.

†MRS. SARAH E. BARNES,
Assistant in Preparatory Department.

EMPLOYES.

LOUIS BIANCHI,
Engineer and Superintendent of Buildings.

ROBERT G. ELLIOTT,
Florist and Gardener.

WILLIAM O. FRITZ, B. S.,
Foreman of Experimental Farm.

PATRICK TRACEY,
Janitor.

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*Winter Term.
† Spring Term.

*STUDENTS.

COLLEGE.

POST-GRADUATES.

William Edgar Taylor	A. B.	Lacerville, Ky.
Lura Louise Thompson.	B. S.	Lafayette, Ind.

SENIOR CLASS.

Perry Davis Creager	S	Portland.
William Arthur Fankboner	S	Marion.
Maude Richmond Henderson	S	Lafayette.
Eli K. Hoober	S	Springport.
Effa Jane Lutz	S	†Wea.
J. D. Moor	A	Elizabethtown.
Alfred Nelson	S	White Rock, Minn.
Charles L. Ratliff	M	Spiceland.
Ella May Stockton	S	Chauncey.
Marshall Thatcher	A	Chauncey.
Howard Vanderbilt	S	Lafayette.
Henry Heath Vinton	I	Lafayette.

JUNIOR CLASS.

Anna Embree Baker	I	Stockwell.
Bessie Baker	S	Stockwell.
James Franklin Bruff	M	Lafayette.
E. V. Claypool		Chauncey.
Orloff Field Dragoo	S	Macedonia.

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*Students in the School of Science are designated by S; in the School of Agriculture and Horticulture by A; in the School of Mechanics and Engineering by M; and the School of Industrial Art by I.

†The P. O. address of residents of Wea is Lafayette.

Arthur L. King	M	Avilla.
Scott Mead	M	Patriot.
Shrewsbury B. Miller	M	Charleston, W. Va.
Mary Florence Murdock	I	Wea.
M. Gorrell Quick	S	Columbus.
Edward N. Reser	I	Wea.
George W. Ross	I	Raub.
Joseph Swearingen	M	Blountsville.
Mary Margaret VanNatta	S	Fowler.
Samuel Turner Virden	A	Monticello.
Kate Wentz	I	Chauncey.

SOPHOMORE CLASS.

George Ade	S	Kentland.
William Brady	S	Lafayette.
Paul H. Chapin	M	Indianapolis.
Mary E. Cooper	I	Lafayette.
Harry Thomas Cory	M	Chauncey.
Edgar Stewart Crowder		Sullivan.
George W. Hart	M	Aurora.
George Thomas Keyes	S	Peru.
Ransom Tedrow Lewis	M	Indianapolis.
James Allen Lilly	M	Patton.
Anna Kelley O'Neall	I	Wea.
Flora Fanny Roberts	I	Chauncey.
Charles A. Stafford	S	Millville.
Bennett Taylor	M	Lafayette.
Henry Neville Throckmorton	S	Lafayette.
William S. Windle	S	Farmers Institute.

FRESHMAN CLASS.

Martin Anderson Adams		Jeffersonville.
George Gordon Ball		Lafayette.
Lemuel Stearns Boggs	M	Wea.
Moses Taylor Boggs	I	Wea.
Henry Luke Bolley		Holman.
Morton Allen Bond		Richmond.
Jessie Born		Lafayette.

Joseph Franklin Bowers	A	Muncie.
James S. Boyd	M	Rushville.
Frank W. Brady	M	Wellsburg, W. Va.
Lewis Brady	A	Lafayette.
George McClelland Branaman		Mooney.
Michael Steele Bright	M	Madison.
James Dwight Cunningham	M	Sugar Branch.
Florence Davidson		Hazleton.
Lewis Henry Davis	A	Lafayette.
William Wilson Doup	M	Columbus.
Harry Macy Felix		Ft. Wayne.
Sallie A. Ford		Lafayette.
Herman Freiburger	M	Ft. Wayne.
Arthur Goss	A	Vincennes.
Minnie Hargrove		Union.
Benjamin Looker Harvey		Lafayette.
Meade S. Hays	A	Chauncey.
Elson Helwig	M	South Whitley.
Leslie Hornbrook	M	Evansville.
Schuyler Colfax Hutton		Wolcott.
Caleb Bales Jackson		Dana.
Robert Shadburn Johnson	M	Louisville, Ky.
Clarence Laird	M	Rockport.
Harry Land	M	Richmond.
William James Lutz		Lafayette.
Joseph Franklin McBeth	M	Lafayette.
Charles Milton Mock	M	Rushville.
Maurice Anthony Mueller	M	Monroeville.
Oscar Ulysses Mutz	A	Edinburg.
John O'Gara	M	Lafayette.
William Henry Olds	M	Ft. Wayne.
Alexander B. Paxton	A	Wellsburg, W. Va.
Frank Peregrine		Francesville.
Philip Thurber Potter		Lafayette.
Frank Lewis Rainey		Lafayette.
Sadie Raub		Chauncey.
Harvey Wilson Robinson		Guilford.
Charlotte Warren Ross		Raub.
James C. Ross		Raub.

Augustus Ruffner	M	Charleston, W. Va.
Richard Burbridge Sample		Lafayette.
John William Shill		Conroe.
Carrie Ernestine Shoemaker		Lafayette.
James Samuel Shortle		Goldsmith.
Stella Edith Smith		Battle Ground.
Werdie Poe Smith		Lafayette.
John Thompson Spivey	A	Orange.
Horace Stafford		Millville.
Minnie Leslie Stretch		Chauncey.
William Taylor Thayer, Jr	M	Charleston, W. Va.
Rose Diana Wagner		Green Hill.
Ella Wallace		Lafayette.
Sallie Shields Wallace		Lafayette.
Frederick Edward Weigand		Lafayette.
Edward John Weigle		Lafayette.
Edward Clarence Wells	M	Vallonia.
Lydia Caroline Weyher		Chauncey.
Adah Whinery		Oxford.
Orville Grant White		Albion.
John Jenkins Wilmore	M	Trenton.

IRREGULAR AND SPECIAL STUDENTS.

The special students named below include (1) students taking special or irregular courses only, and (2) students taking a special course in addition to one of the regular courses.

John Grant Bowers	Agriculture and Botany.	Muncie.
Selar Arthur Douglas	Botany, Zoölogy and History.	Patriot.
Elizabeth Hawkins	Clay Modeling and Wood Carving.	Earl Park.
Loretta Johnson	Wood Carving.	Lafayette.
Ransom Tedrow Lewis	Clay Modeling,	Indianapolis.
E. N. Reser	Decorative Design.	Wea.
Wilbur Sample	Wood Carving.	Lafayette.
Florence Steeley	Clay Modeling.	Lafayette.
Lizzie Day Swan	Wood Carving.	Lafayette.
Lura Louise Thompson	Wood Carving.	Lafayette.
Mrs. R. B. Warder	Light and Shade in Crayon.	Chauncey.
Sallie Winston	Wood Carving.	Farmers Institute.

SCHOOL OF PHARMACY.

E. G. Eberhart	Indianapolis.
Manuel Jay	Lafayette.
John Kennedy	Worthington.
M. Mark	Sweetzer.
A. W. Shoup	Battle Ground.
Geo. M. Weber	Zionsville.
W. H. Weyher	Chauncey.

PREPARATORY CLASS.

REGULAR.

Laura Belle Adams	Burton.
Charles Sherman Anderson	Dayton.
Edward Arnold	Cincinnati, O.
William A. Banks	Door Village.
Edward W. Bassett	Battle Ground.
Marcus Bender	Knox.
Anna Blind	Pine Village.
Ella Brady	Lafayette.
Oakley Bright	Rainsville.
Brown Brockenbrough	Lafayette.
Almon Levi Brown	Edna Mills.
Alaska Carter	Shelburn.
Charles Cockrell	Lafayette.
Clarence Linus Cory	Chauncey.
Nannie Cox	Romney.
Thomas Dailey	Rockport.
Mary Emma Davidson	Forney.
Charles Luther Davidson	Union.
Edward Clement Davidson	Lafayette.
Elvah Davis	Odell.
Louis Edgar Davis	Azalia.
Jessie Dinsmore	Kirkville, Iowa.
Jasper Dresser	Lafayette.
Albert Clinton Eccles	Greenwood.
Evan Wesley Estep	Danville.
John Philip Foresman	Lafayette.
Charles Grant Foresman	Lafayette.
Flora May Fox	Romney.
George Fox	Romney.
Noah Fouts	Deer Creek.
Albert Joseph Fritz	Pompeii, Mich.
Espy Gadd	Indianapolis.
Harry Garden	Lafayette.

Talbot Charles Gernon	Beaverville, Ill.
Arthur Miller Grant	Elston.
Lucy Grover	Frankfort.
Clyde Verne Halstead	Kirkpatrick.
James Leroy Hancock	Anderson.
Mattie Harman	Templeton.
William Harris	Lafayette.
Anna Higman	Lafayette.
Clara Eleanor Higman	Lafayette.
Simon Hively	Columbia City.
Ella Huthsteiner	Tell City.
Loretta Johnson	Lafayette.
Carl V. Kimball	Xenia.
Frank Lathrop	Knox.
Charles Lewis Latta	Odell, Neb.
Emerson James Lesley	Winchester.
Morris Levistein	Spencer.
Oliver Morton Louden	Sharp's Mills.
John Lutz	Wea.
John William McCorkle	Shawnee Mound.
Charles Allen McCorkle	Shawnee Mound.
Benjamin Franklin McCoy	Lovely Dale.
John McCutcheon	Elston.
Fanny Georgiana McGrath	Lafayette.
Susie Miller	Farmers Institute.
Della Lauretta Odle	Pine Village.
Abraham Lincoln O'Dell	Attica.
William Russell Parker	Rensselaer.
Harry E. Pierce	Pine Village.
Charles Warren Pifer	Lafayette.
Charles Poland	Fairland.
Anna Powers	Otterbein.
John Baker Ray	Lafayette.
Cora Gertrude Read	Chauncey.
Charles Remster	Veedersburg.
Bertie Rogers	Lafayette.
Daniel Royse	Lafayette.
Samuel Monroe Saltmarsh	Sunman.
Wilbur Sample	Lafayette.

John Fred. Schnaible	Lafayette.
Mary Seeger	Lafayette.
Cary Elmer Shaner	Galveston.
Albert Emerson Smith	Zionsville.
John Oran Spahr	Lebanon.
Herman Stalder	Tell City.
Albert Stewart	Mitchell.
Albert Ward Stockton	Lafayette.
Thomas J. Stone	La Fontaine.
Emma Summe	Darwin.
Alva Burns Summers	Romney.
Henry Taylor	Chauncey.
James Richard Thayer	Charleston, W. Va.
Annie Thornton	Chauncey.
Lizzie Alice Timmons	Battle Ground.
James Trant	Hartford City.
Mary Blanche Van Natta	Battle Ground.
Maggie Wade	Lafayette.
Anna Wagner	Lafayette.
Robert Bee Wallace	Lafayette.
Alva Courtney Washburn	Lafayette.
Lonzo Felix Weaver	Odell.
William Heath Wells	Lafayette.
Frank Wheeler	Noblesville.

IRREGULAR.

Ruth Barr	Lafayette.
Nellie Berkey	Lafayette.
Frankie Bittle	Whitlock.
Thomas Enoch Brown	Burton.
Eva Burton	Lafayette.
Flora May Chizum	Lafayette.
Orra Clevinger	Ash Grove.
Charles Cox	Tipton.
Burson Gideon DeHart	Lafayette.
Ella Driscoll	Conroe.
Ennis Edwards	Otterbein.
William Clinton Fitzer	Montez.
John Hanley	Chauncey.
Edward Haworth	Galveston.

Ella Hickman	Green Hill.
Charles Hodgin	Lafayette.
Carrie Luetta Hursh	Colburn.
William McCarty	Lafayette.
Fred McMullen	Lafayette.
Annie Meharry	Whitlock.
Mattie Moore	Chauncey.
George Northrop	Clark's Hill.
Katie O'Gara	Lafayette.
Emma Prass	Lafayette.
Charles William Ross	Lafayette.
Taylor Sample	Lafayette.
Richard Addison Smart	Lafayette.
Frank Smith	Conroe.
David Snyder	Monroe City.
James Snyder	Monroe City.
Mary Elizabeth Steen	Battle Ground.
Stephen Bascom Thomas	Morton.
Curtis Vankirk	Monroe City.
Tishie Welch	Chauncey.
Mae Wheeler	Smithson.
Chester Whickcar	West Point.

SUMMARY.

COLLEGE.

Post-Graduates	2	
Seniors	12	
Juniors	16	
Sophomores	16	
Freshmen	67	
Irregular and Special	12	
School of Pharmacy	7	
	132	
Deduct names repeated	5	127

SUMMARY—Continued.

PREPARATORY CLASS.

Regular	96	
Irregular	36	
		132
Total number of different students		259

COUNTIES REPRESENTED.

Names of counties represented by one or more students:

Allen,
Bartholomew,
Benton,
Blackford,
Boone,
Carroll,
Cass,
Clark,
Clinton,
Dearborn,
Delaware,
Fayette,
Fountain,
Grant,
Greene,
Gibson,
Hamilton,
Harrison,
Hendricks,
Henry,
Jackson,
Jasper,
Jay,
Jefferson,
Johnson,
Knox,
Laporte,
Lawrence,
Madison,
Marion,
Miami,
Montgomery,
Newton,
Noble,
Owen,
Perry,
Pike,
Putnam,
Randolph,
Ripley,
Rush,
Spencer,
Starke,
Sullivan,
Switzerland,
Tippecanoe,
Tipton,
Vanderburgh,
Vermillion,
Wabash,
Warren,
Wayne,
White,
Whitley.

Total, 54.

MILITARY DEPARTMENT.

PURDUE CADETS.

OFFICERS.

Captain	P. D. Creager.
1st Lieutenant	Eli K. Hoober.
2d Lieutenant	Geo. W. Ross.
1st Sergeant	J. G. Bowers.
2d Sergeant	R. T. Lewis.
3d Sergeant	S. T. Virden.
1st Corporal	J. C. Ross.
2d Corporal	O. U. Mutz.
3d Corporal	Wilbur Sample.
4th Corporal	S. M. Saltmarsh.

PRIVATES.

E. W. Bassett,
L. S. Boggs,
Lewis Brady,
F. W. Brady,
G. McC. Branaman,
O. Bright,
M. S. Bright,
Chas. Cox,
T. M. Dailey,
Chas. L. Davidson,
Elvah Davis,
L. H. Davis,
Jasper Dresser,
A. C. Eccles,
E. W. Estep,
Noah Fouts,
Simon Hively,
C. V. Halstead,
Carl Kimball,
E. J. Lesley,
Wm. J. Lutz,
F. McMullen,
M. Levistein,
O. M. Loudan,
Chas. A. McCorkle,
B. F. McCoy,
A. L. O'Dell,
W. R. Parker,
A. B. Paxton,
H. W. Robinson,
T. B. Sample,
H. Stalder,
H. A. Taylor,
J. A. Thayer,
R. B. Wallace,
A. C. Washburn,
A. F. Weaver,
E. C. Wells,
J. J. Wilmore,
F. M. Wheeler,
O. G. White.

ALUMNI.

1875.

John Bradford Harper, B. S.; Indianapolis.

1876.

Charles John Bohrer, B. S.; A. C., 1877; Denver, Col.

1877.

Franklin Pierce Clark, B. S.; A. C., 1878; North Baltimore, O.
William King Eldridge, B. S.; C. E., 1878; Indianapolis.

1878.

Jesse Harvey Blair, B. S.; LL. B.[1]; Lebanon.
Eulora Miller, B. S.; Lafayette.
Daniel William Noble, B. S.; Indianapolis.
John Crothers Vannatta, B. S.; Kentland.

1879.

Nettie Derexa Morey, B. S.; Chicago, Ill.
Guilford Lawson Spencer, B. S.; A. C.; M. S.[2]; Washington, D. C.

1880.

James Nelson Bartholomew, B. S.; M. D.[3]; San Alamos, Cal.
Margaret Jane Erisman, B. S.; Lafayette.
Annie Henderson, B. S.; Lafayette.
Carrie Henderson, B. S.; Lafayette.
*Lewis Owens, B. S.; Chalmers.
Worth Reed, B. S.; Chauncey.
Lilian Gray Smith, B. S.; Lafayette.

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[1] Indianapolis Law School, 1883.
[2] Michigan University, 1882.
[3] Medical College of Ohio, 1882.
* Died March, 1881.

1881.

Mamie Emma Fraser, B. S.; Peoria, Ill.
John Martin McBroom, B. S.; Hillsboro.
William Buchanan Sinclair, B. S.; San Pierre.
Eva Wilson Smith, B. S.; Lafayette.
Jessie Florence Thompson, B. S.; Lafayette.
Albert King Warren, B. S.; Lebanon.
Thomas Perkins Weir, B. S.; Kansas City, Mo.
William Emerson White, B. S.; Cincinnati, O.

1882.

Philip Doddridge Alexander, B. S.; Mount Vernon.
Henry Abraham Beck, B. S.; Indianapolis.
Maggie Janet Chapman, B. S.; Topeka, Kan.
William Edgar Driscoll, B. S.; New Burlington.
Elwood Mead, B. S.; C. E.; Lafayette.
Walter Henry Peters, B. S.; A. C.; Lafayette.
Edward Ewing Sickler, B. S.; Indianapolis.
Edward Sabin White, B. S.; Lafayette.
Henry Augustus Huston, A. C.; A. M.[4]; Lafayette.
Charles A. Crampton, A. C.; Ph. C.[5]; New Orleans, La.

1883.

Kate Luvenia Bishop, B. S.; Peru.
Frank Vincent Broadbent, B. S.; Washington, D. C.
Carrie Avanelle Cory, B. S.; Chauncey.
Elroy A. Dillon, B. S.; Chicago, Ill.
Anna Laura Foster, B. S.; Otterbein.
Charles Haskel Henderson, B. S.; Lafayette.
Harry G. Lutz, B. S.; Wea.
Walter Stevens Ratliff, B. S.; Richmond.
Otis S. Roberts, B. S.; Oxford.
Ida Virginia Smith, B. S.; Lafayette.
Lura Louise Thompson, B. S.; Lafayette.
George King Throckmorton, B. S.; Lafayette.
James Milo Waugh, B. S.; Crawfordsville.

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4. Bowdoin College, 1879.
5. Michigan University, 1882.

Emory Calvin White, B. S.; Albion.
William Edward White, B. S.; Oxford.

1884.

Charles Denman Keyes, B. S.; Peru.
Fanny Bennett Lutz, B. S.; Wea.
Flora Jane Lutz, B. S.; Wea.
S. A. D. S. Lyons, B. S.; Boundary City.
George Washington McCoy, B. S.; Vincennes.
Albert Brown Porter, B. S.; Richmond.
Walter J. Quick, B. S.; Columbus.
Harry Elisha Rank, B. S.; Chauncey.
Elizabeth Shoemaker, B. S.; Chauncey.
Hattie Schutz VanNatta, B. S.; Fowler.

COURSES OF STUDY.

PURDUE UNIVERSITY is a college of Science, Agriculture, and Mechanic Arts.* It embraces four special schools and a Preparatory Class, as follows:

I. School of Agriculture and Horticulture.
II. School of Mechanics and Engineering.
III. School of Science.
IV. School of Industrial Art.
V. Preparatory Class.

The courses of instruction in the four special schools are so arranged that they include, with few exceptions, the same instruction in general science, mathematics, English, history, political and mental science, and industrial drawing. In addition to these branches common to the four schools, the School of Agriculture adds four years of daily instruction and practice in agriculture and horticulture; the School of Mechanics and Engineering, two years of daily instruction and practice in practical mechanics, and two years of mechanical engineering; the School of Science, four years in laboratory work, two hours daily, in the natural and physical sciences; and the School of Industrial Art, four years of instruction and training in industrial art.

Students in each of the schools are now required to engage in an average of two hours daily of *hand work*, including laboratory practice, shop work, field work, etc.

While the Preparatory Class offers a thorough drill in the common English branches which is quite complete in itself, it is designed to prepare students to enter either of the four schools of the University.

The courses are as follows:

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*There is also organized a school of Pharmacy, of which a special announcement is issued.

SCHOOL OF AGRICULTURE.

FRESHMAN CLASS.

HOURS.	8 A. M. TO 9 A. M.	9 A. M. TO 10 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M., OR 3:30 P. M. TO 5:30 P. M.
1st Term. 15 w.	Farm Crops, 8 w. Farm Stock, 7 w.	Outline Drawing from Objects.	English Composition and Rhetoric.	Geometry.	Botany, 1:30 to 3:30.
2d Term. 12 w.		Orthographic Projection.	English Composition and Rhetoric.	Geometry.	Botany, 1:30 to 3:30.
3d Term. 11 w.		Stock Breeding.	English Composition and Rhetoric.	Algebra.	Botany, 1:30 to 3:30.

SOPHOMORE CLASS.

1st Term. 15 w.	Logic.	Higher Algebra, 12 w. Trigonometry, 3 w.	Farm Management, 9 w.	Physics.	†Farm Implem'ts, 6 w. 1:30 to 3:30.
2d Term. 12 w.	English Literature.	Trigonometry.		Physics.	Zoölogy, 1:30 to 3:30.
3d Term. 11 w.	English Literature.	Surveying.	*Entomology.	Physics.	

JUNIOR CLASS.

1st Term. 15 w.	Fruit Culture, 8 w. Vegetable Gardening, 7 w.	Universal History.	Landscape Gardening, 10 w. Forestry, 5 w.		Chemistry, 1:30 to 3:30.
2d Term. 12 w.		Universal History.	Economic Botany.		Chemistry, 1:30 to 3:30. Shop Work, 3:30 to 5:30.
3d Term. 11 w.	*Farm Drainage.	Universal History.	Agricultural Chemistry, (Lectures) (Tuesdays and Thursdays.)	German.**	Agricultural Chemistry, 1:30 to 3:30. Shop Work, 3:30 to 5:30.

SENIOR CLASS.

1st Term. 15 w.	German.	Human Physiology.	Psychology.	Veterinary Obstetrics.	
2d Term. 12 w.	German.	Human Physiology, 4 w. Geology, 8 w.	Psychology, 2 w. Political Economy, 10 w.	Principles of Agriculture, 6 w. Principles of Feeding & Dairying, 6 w.	
3d Term. 11 w.	German.	Geology.	Political Economy.	Veterinary Hygiene.	

*With occasional field work.

† Hand practice, two hours daily.

**Students who do not take German may select one line of work in Literature, Science or Art, as may be determined upon consultation with the Faculty, provided that no new classes will be formed of less than three students.

SCHOOL OF MECHANICS AND ENGINEERING.

FRESHMAN YEAR.

8 A. M. TO 9 A. M.	9 A. M. TO 10 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M. OR 3:30 P. M. TO 5:30 P. M.
Wood Working Tools. Elements of Construction. Mechanical Drawing.	Model and Object Drawing.	English Composition and Rhetoric.	Geometry.	Bench Work in Wood, 10 w. Mac'ne Work in Wood, 5 w.
Theory of Pattern Making. Mechanical Drawing.	Mechanical Drawing.	English Composition and Rhetoric.	Geometry.	Pattern Making.
Hand Tools for Iron. Mechanical Drawing.	Mechanical Drawing.	English Composition and Rhetoric.	Algebra.	Vise Work in Iron.

SOPHOMORE YEAR.

Logic.	Algebra, 12 wks. Trigonometry, 3 wks.	Mechanical Drawing.	Physics.	Iron Forging.
English Literature.† Mechanical Drawing.*	Trigonometry.	Theory of Machine Work.* Mechanical Drawing.†	Physics.	Steel Forging, 4 wks. Machine Work, 8 wks.
English Literature.† Mechanical Drawing.*	Surveying.	Elementary Lectures on Steam Engines.* Mechanical Drawing.†	Physics.	Machine Work.

JUNIOR YEAR.

Analytical Geometry.	Universal History.	Descriptive Geometry.	Descriptive Geometry.	Chemistry.
An. Geometry, 5 wks. Calculus, 7 wks.	Universal History.	Principles of Mechanism.	Mechanical Drawing.	Chemistry.
Calculus.	Mechanical Drawing.	Principles of Mechanism.[*] Metallurgical Chemistry [†]	German.	Metallurgical Chemistry.

SENIOR YEAR.

German.	Prime Movers.		Analytical Mechanics.	Machine Design and Experimental Work in Engineering.
German.	Prime Movers, 4 wks. Strength of Materials, 8 w.	Pol. Economy, 10 wks.	Analytical Mechanics, 2 w.	
German.		Political Economy.	Mill Work and Machinery.	

[*] Tuesdays and Thursdays.

[†] Mondays, Wednesdays and Fridays.

SCHOOL OF SCIENCE.

FRESHMAN YEAR.

HOURS.	8 A. M. TO 9 A. M.	9 A. M. TO 10 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M.
1st Term. 15 w.		Model and Object Drawing.	Rhetoric.	Geometry.	Botany.
2d Term. 12 w.		Orthographic Projection	Rhetoric.	Geometry.	Botany.
3d Term. 11 w.		Linear Perspective.	Rhetoric.	Algebra.	Botany.

SOPHOMORE YEAR.

1st Term. 15 w.	Logic.	Higher Algebra, 12 w. Trigonometry, 3 w.		Physics.	Zoology.
2d Term. 12 w.	English Literature.	Trigonometry.		Physics.	Zoology.
3d Term. 11 w.	English Literature.	Surveying.		Physics.	Zoology.

JUNIOR YEAR.

1st Term. 15 w.	Analytical Geometry.	Universal History.	Botany.	Botany.	Chemistry.
2d Term. 12 w.	Analytical Geometry, 5 w. Calculus, 7 w.	Universal History.	Zoology.	Zoology.	Chemistry.
3d Term. 11 w.	Calculus.	Universal History.	Applied Chemistry.	German.	Chemistry.

SENIOR YEAR.

1st Term. 15 w.	German.	Human Physiology.	Psychology.		Elective Work.*
2d Term. 12 w.	German.	Human Physiology, 4 w. Geology, 8 w.	Psychology, 2 w. Political Econemy, 10 w.		Elective Work.*
3d Term. 11 w.	German.	Geology.	Political Economy.		Elective Work.*

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*Students must select one line of work in Literature, Science or Art, as may be determined, upon consultation with the Faculty: provided, that no new classes will be formed of less than three students.

SCHOOL OF INDUSTRIAL ART.

FRESHMAN CLASS.

Hours.	8 a. m. to 9 a. m.	9 a. m. to 10 a. m.	10:30 a. m. to 11:30 a. m.	11:30 a. m. to 12:30 p. m.	1:30 p. m. to 3:30 p. m.
1st Term. 15 w.		Object Drawing.	Rhetoric.	Geometry.	Light, Shade and Composition.
2d Term. 12 w.		Orthographic Projection.	Rhetoric.	Geometry.	Color.
3d Term. 11 w.		Linear Perspective.	Rhetoric.	Algebra.	Historical Ornament.

SOPHOMORE CLASS.

1st Term. 15 w.	Logic.	Higher Algebra, 12 w. Trigonometry, 3 w.		Physics.	Wood Carving or Clay Modeling.
2d Term. 12 w.	English Literature.	Trigonometry.		Physics.	Wood Carving or Clay Modeling.
3d Term. 11 w.	English Literature.	Surveying.		Physics.	Wood Carving or Clay Modeling.

JUNIOR CLASS.

1st Term. 15 w.	Analytical Geometry.	Universal History.	Wood Carving or Clay Modeling.	Wood Carving or Clay Modeling.	Chemistry.
2d Term. 12 w.	Anal. Geometry, 5 w. Calculus, 7 w	Universal History.	Wood Carving or Clay Modeling.	Wood Carving or Clay Modeling.	Chemistry.
3d Term. 11 w.	Calculus.	Universal History.		German.	Wood Carving or Clay Modeling.

SENIOR CLASS.

1st Term. 15 w.	German.	Human Physiology.	Psychology.		Decorative Design.
2d Term. 12 w.	German.	Human Physiology, 4 w. Geology, 8 w.	Psychology, 2 w. Political Economy, 10 w.		Decorative Design.
3d Term. 11 w.	German.	Geology.	Political Economy.		Decorative Design.

SCHOOL OF AGRICULTURE.

The special subjects relating more directly to Agriculture are sufficiently outlined below to indicate the character of the instruction given. Information concerning the general subjects of the course may be found in other parts of the Register, under appropriate heads, to which reference by page is made.

FRESHMAN YEAR.

AGRICULTURE.—Twenty-six weeks, five hours per week. **Farm Crops.**—Staple and special; planting, cultivating, and harvesting; feeding and selling; reasons for change of crops; crop rotations adapted to the different soils and climatic conditions. **Farm Stock.**—History and characteristics of the various improved breeds of domestic animals, with their adaptations to soil, climate and the various purposes of the breeder. **Stock Breeding.**—Principles underlying the art; laws of heredity; relation of cross-breeding and in-breeding to constitutional vigor, prepotency, etc.; means of improving our domestic animals.

INSTRUCTOR, *Prof. Latta.*

BOTANY.—Thirty-eight weeks, ten hours per week. See Botany, page 41.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 53.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 53.

RHETORIC.—Thirty-eight weeks, five hours per week. See English and History, page 51.

DRAWING.—Twenty-seven weeks, five hours per week. First fifteen weeks, **Object Drawing,** and last 12 weeks, **Orthographic Projection.** See Industrial Art, page 47.

SOPHOMORE YEAR.

AGRICULTURE.—Fifteen weeks, ten hours per week during first six weeks, and five hours per week thereafter. **Farm Implements.**—Study of their mechanism, strength, and durability, with practice in taking them apart, putting them together, and adjusting them for use. **Farm Management.**—Various questions relating to the care of crops, stock, manures, buildings, fences, implements, etc.; permanent improvements; farm accounts; buying and selling.

INSTRUCTOR, *Prof. Latta.*

ZOOLOGY.—Twenty-three weeks, ten hours per week during first twelve weeks, and five hours per week thereafter. **Mammalian Anatomy.**—Dissection of some mammal, and studyof the structure and uses of the various organs, as a preparation for the intelligent study of the principles and practice of veterinary hygiene. **Entomology.**—Study of beneficial and injurious insects; means of preventing or mitigating insect ravages.

INSTRUCTORS, *Profs. Osborn and Troop.*

PHYSICS.—Thirty-eight weeks, five hours per week. See Physics, page 55.

ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 53.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 53.

SURVEYING.—Eleven weeks, five hours per week. See Mathematics, page 53.

LOGIC.—Fifteen weeks, five hours per week. See English and History, page 51.

ENGLISH LITERATURE.—Twenty-three weeks, five hours per week. See English and History, page 51.

JUNIOR YEAR.

AGRICULTURE.—Thirty-eight weeks, five hours per week. **Fruit Culture.**—Budding, grafting, layering and pruning; care and cultivation of fruit trees and vines; harvesting, packing, storing and marketing of fruits; orchard sites, etc. **Vegetable Gardening.**—Preparation of soil, planting, transplanting, cultivation, harvesting, marketing and winter preservation. **Landscape Gardening.**—Laying out and ornamentation of grounds with trees, shrubs, flowers, lawns, etc. **Forestry**—effects of forests upon climate; reasons for forest-tree planting; trees for various locations and methods of growing the same. **Economic Botany.**—Study of noxious and useful plants of the farm, their characteristics, propagation, rate of increase and conditions of growth; time and manner of destroying weeds, etc.

INSTRUCTOR, *Prof. Troop.*

Farm Drainage.—Eleven weeks, five hours per week. Location, planning, leveling, construction and repairing of farm drains; sanitary drainage of farm buildings; road drainage.

INSTRUCTOR, *Prof. Latta.*

SHOP WORK.—Twenty-three weeks, ten hours per week. See Bench Work in Wood, and Iron Forging, page 36.

CHEMISTRY.—Thirty-eight weeks, ten hours per week. See Chemistry, page 54.

UNIVERSAL HISTORY.—Thirty-eight weeks, five hours per week. See English and History, page 52. Students may substitute German for History during the last eleven weeks.

GERMAN.—*Elective*—Eleven weeks, five hours per week. See German, page 55.

SENIOR YEAR.

AGRICULTURE.—Thirty-eight weeks, five hours per week. **Veterinary Obstetrics.**—Care of pregnant animals; causes of abortion; normal and abnormal parturition; measures to be adopted in difficult cases. **Hygiene.**—Symptoms, causes, preventives and treatment of diseases of farm stock; sanitary arrangement of farm buildings; disinfection.

INSTRUCTOR, *Prof. Troop.*

Principles of Agriculture.—Effects of tillage, manures, mulching, drainage, irrigation; nature and needs of soils and crops; soil exhaustion, renovation of soils, etc. **Principles of Feeding and Dairying.**—Laws of animal nutrition; feeding, rations for young, fattening, working and dairy animals; effects of dry, succulent, concentrated and bulky foods; economy in feeding; effects of food, exposure and treatment on the quantity and quality of milk; milk setting, butter and cheese making; utilization of the bi-products of the dairy.

INSTRUCTOR, *Prof. Latta.*

HUMAN PHYSIOLOGY.—Nineteen weeks, five hours per week. See Human Physiology, page 44.

GEOLOGY.—Sixteen weeks, five hours per week. See Geology, page 44.

PSYCHOLOGY.—Seventeen weeks, five hours per week. See Political and Intellectual Science, page 55.

POLITICAL ECONOMY.—Eighteen weeks, five hours per week. See Political and Intellectual Science, page 55.

GERMAN.—*Elective*— Thirty-eight weeks, five hours per week. See German, page 55.

ELECTIVE WORK.—Thirty-eight weeks, ten hours per week. Students who do not elect German must select one line of work in **Literature, Science** or **Art,** as may be determined, upon consultation with the Faculty; provided that no new classes will be formed of less than three students.

ADVANTAGES.

It will be observed that the special, as well as the general studies, continue throughout the course. It is believed that this arrangement will tend to keep the student constantly in close sympathy with agricultural pursuits. As far as possible, the special subjects are taken up at the most favorable time of the year, and in their proper relation to the purely scientific studies. The work of the class room is supplemented by field instruction; and the shop work gives a degree of mechanical skill of great value to the farmer. As far as practicable, labor will be furnished to students taking the Agricultural Course, whenever it is desired. Students receive pay for all work not instructional.

The college campus, greenhouse, nursery, orchard, experiment farm, and meteorological station afford facilities for practically illustrating the class-room instruction. The experimental grounds contain a large number of varieties of grapes and small fruits, grains and grasses, which furnish ample means for observation and training in those branches especially adapted to the farmer and fruit grower.

SCHOOL OF MECHANICS AND ENGINEERING.

The instruction in this school, during the first two years, is arranged to give special prominence to shop work and the studies pertaining thereto; the second two years are more particularly devoted to the theory and practice of engineering.

The work of the first two years is arranged to respond to the present strong and growing demand for young men who understand practical mechanical construction, who are skilled in the use of tools, and who by their education possess a high order of directive power. It adds to work of a general character, instruction and practice in those underlying principles of the common trades, which when taken together form a basis for all lines of special mechanical work. While the technical work of the Freshman and Sophomore years is thus more especially intended to give young men skill in the practical manipulation of tools and in actual machine construction, that of the Junior and Senior years is designed to give them such additional and advanced training that they may become, not merely constructors, but also inventors and designers, of machinery.

The course of instruction is as follows:

FRESHMAN YEAR.

PRACTICAL MECHANICS.—

The three specific features of the work in Practical Mechanics are (1) **Technical Instruction,** consisting of Recitations and Lectures, (2) **Mechanical Drawing,** and (3) **Shop Practice.**

1. **Technical Instruction.**—Thirty-eight weeks, five hours per week. The technical instruction increases the value of the shop practice by affording it ample direction, and by presenting questions that can not well be developed in the shop alone. Under this head are comprised—

(a) *Lectures* developing the character of cutting edges for wood, the adjustment of different tools and the methods by which they are kept in order; also lectures on the shrinkage and warping of woods; different forms, adaptation, and relative strength of joints; framing, bracing, paneling, and elementary stair building.

(b) *Lectures* on wood-working machines, including rotary and traverse planers; circular, scroll and band saws; and lathes and lathe attachments.

(c) *Lectures* on molding and casting, and recitations from Rose's Pattern Makers' Assistant, as a text-book.

(d) *Lectures* on vises, hammers, chisels, files, scrapers, and measuring appliances.

INSTRUCTOR, *Prof. Goss.*

2. **Mechanical Drawing.**—Thirty-eight weeks, five hours per week.

(a) *Sketching* from parts of various wood-working tools and of work to be done in the shop.

(b) *Free hand drawing and shading* from object.

(c) *Mechanical Drawing,* including drawings for built-up pulley patterns, pipe bends, laggings, sweeps, patterns for sectional molding, and for other work of like character that may be done in the shop.

(d) *Drawings from copy* of the details of machines.

INSTRUCTORS, *Profs. Thompson and Goss.*

3. Shop Work.—Thirty-eight weeks, ten hours per week.

(a) *Exercises* in planing, sawing, rabbeting, ploughing, notching, splicing, mortising, tenoning, dove-tailing, framing, paneling, and in other work involving the common carpenter tools.

(b) *Exercises* in circular sawing, scroll sawing and turning.

(c) *Exercises* in molding in two and three part flasks, with core work; followed by pattern-making, including patterns and core boxes for pulleys, gears, columns, and pipe joints; complete sets of patterns for one or more machines are made by every class.

(d) *Exercises* in vise work in iron, including surface chipping, key seating, surface filing, squaring and fitting, round filing, sawing, scraping and polishing.

INSTRUCTOR, *Mr. Golden.*

RHETORIC.—Thirty-eight weeks, five hours per week. See English and History, page 51.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 53.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 53.

SOPHOMORE YEAR.

PRACTICAL MECHANICS.—

1. Technical Instruction.—Twenty-two weeks, two hours per week.

(a) *Lectures* on the management of steel in forging, hardening, tempering and annealing.

(b) *Recitations* from Rose's Practical Machinist, as a text-book.

(c) *Lectures* on the steam engine and boiler. These lectures are descriptive in character, and are intended to familiarize the student with the peculiarities of the principal types of modern engines and boilers.

2. Mechanical Drawing.—Thirty-eight weeks, five hours per week.

(a) *Drawings* to scale from actual machines.

(b) *Ink shading and tinting.* The representation of flat and curved surfaces by ink tints, and of different woods and metals by colors.

3. **Shop Work.**—Thirty-eight weeks, ten hours per week.

(a) *Iron forging,* including exercises in heating, bending, drawing, upsetting, welding, annealing, and case-hardening. About forty forgings are made representing a large variety of operations.

(b) *Steel forging,* including the making and tempering of punches, drills, chisels, machine cutting tools, gravers and springs.

(c) *Machine work* in metals, including exercises in turning, planing, slotting, drilling, boring, fluting, etc. This practice is given in the construction of complete machines and appliances.

INSTRUCTOR, *Prof. Goss.*

LOGIC.—Fifteen weeks, five hours per week. See English and History, page 51.

ENGLISH LITERATURE.—Twenty-three weeks, three hours per week. See English and History, page 52.

ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 53.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 53.

SURVEYING.—Eleven weeks, five hours per week. See Mathematics, page 53.

PHYSICS.—Thirty-eight weeks, five hours per week. See Physics, page 55.

JUNIOR YEAR.

MECHANICAL ENGINEERING.—

1. **Descriptive Geometry.**—Thirty-eight weeks, ten hours per week. Instruction and practice in the methods of representing by drawings all geometrical magnitudes and the solution of problems relating to these magnitudes in space. This subject, including its application to shades, shadows, and perspective, is taught from text-book; one hour of each day being devoted to instruction and recitation in the class-room, and one hour to the practical solution of original problems in the draughting-room.

2. **Principles of Mechanism.**—Twelve weeks, five hours per week, and eleven weeks, two hours per week. Under this head are studied the principles underlying the action of the elementary combinations of which all machines are composed. The communication of motion by gear-wheels, belts, cams, screws and linkwork, the various means of producing definite changes of velocity, the different automatic feed motions, epicyclic trains, parallel motions, and the principles of quick return movements, all form part of this subject.

3. **Mechanical Drawing.**—Twenty-three weeks, five hours per week. The instruction in "Principles of Mechanism" is supplemented by daily work in the draughting-room, where the student works out practical problems similar to those that an engineer would meet in the regular practice of his profession. His ideas are thus rendered clear and definite; and he becomes able, not only to say, in general terms, how certain problems should be handled and solved, but, what is more important, to work them out himself in a correct and intelligent manner.

INSTRUCTOR, *Prof. Stahl.*

HISTORY.—Twenty-seven weeks, five hours per week. See English and History, page 52.

ANALYTICAL GEOMETRY.—Twenty weeks, five hours per week. See Mathematics, page 53.

CALCULUS.—Eighteen weeks, five hours per week. See Mathematics, page 53.

CHEMISTRY.—General Chemistry, seventeen weeks, ten hours per week; and Metallurgical Chemistry, eleven weeks, thirteen hours per week. See Chemistry, page 54.

GERMAN.—Eleven weeks, five hours per week. See German, page 55.

SENIOR YEAR.

MECHANICAL ENGINEERING.—

1. **Analytical Mechanics.**—Seventeen weeks, five hours per week. The work in this branch consists of mathematical investigations concerning the action of forces on solids and liquids, in producing equilibrium and motion.

2. Prime Movers.—Nineteen weeks, five hours per week. The work in this subject begins with the study of the mechanism and action of the principal pumps, the working of over and under-shot water-wheels and of turbines, the flow of water through pipes, and, in general, the utilization of water power. Steam boilers are next considered, the advantages and disadvantages of the various modern forms being carefully pointed out. The proper number and size of tubes and flues, the thickness of plates, strength of different styles of riveting, kinds of bracing, amount of grate and heating surface, different kinds of steam and water gauges and safety valves, the causes of and methods of preventing foaming, incrustation and corrosion, the manner of setting boilers and of operating them with safety and economy, are all studied in detail.

The steam engine is next taken up, being carefully analyzed and discussed in all its parts, particular attention being paid to link and valve motions. The student is taught how to calculate the size of an engine to develop a required power, how to determine the length of stroke, diameter of cylinder and piston-rod, size and shape of connecting-rods, and how to design the valves and eccentrics. The action of fly-wheels, effect of cushioning, lap and lead, relative advantages of simple and compound, condensing and non-condensing engines, are all explained. The steam engine indicator is studied carefully, and the student becomes thoroughly familiar with its use and the manner of interpreting its indications.

3. Strength of Materials.—Eight weeks, five hours per week. Special attention is given to the strength of structures as depending on the form and arrangement of their parts and on the materials of which they are composed. The strength and deflections of beams, strength of columns, shafts, riveted joints and teeth of gear wheels, are all thoroughly discussed. The student is taught the methods by which the greatest strength may be secured with a given amount of material, and, in general, the economic use of materials, so as to give the structure the necessary strength without the waste attending the use of superfluous material.

4. Millwork and Machinery.—Eight weeks, five hours per week. Under this head, the time is devoted to the calculation of the sizes of parts of machinery, to the manner of arranging shops, the means of transmitting power over both short and long distances, and to the solution of the miscellaneous problems constantly arising before the mechanical engineer.

5. **Machine Design and Experimental Work in Engineering.**—Thirty-five weeks, ten hours per week. Throughout the senior year, the students devote two hours daily to practical work. They design some machine in detail, first laying out the various movements and calculating shapes and sizes of the different parts, and finally making complete working drawings, just as such work would be done by an engineer in the active pursuit of his profession. Under the head of experimental work students determine the efficiency of steam engines, boilers and pumps, or make some original investigation concerning the strength of materials or some other subject of importance to the engineer.

INSTRUCTOR, *Prof. Stahl.*

GERMAN.—Thirty-five weeks, five hours per week. See German, page 55.

POLITICAL ECONOMY.—Eighteen weeks, five hours per week. See Political and Intellectual Science, page 55.

APPARATUS AND APPLIANCES.

The school is provided with shops containing benches and tools for bench work; lathes and saws for machine work in wood; benches, vises and small tools for vise work in iron; forges, anvils and small tools for forging; and lathes, planer, and drill, together with their usual adjuncts, for machine work in metals. With steam for motive power, the entire equipment is arranged similarly to that of any well ordered manufacturing establishment. The work done is, in the beginning, such as will best make the student familiar with tools and with the general laws that regulate their use, with but little regard to the utility of the product. As the skill of the student increases, he is given work of more practical value; and during the last half of the Sophomore year the whole time is devoted to construction.

The draughting room is a large well-lighted room, supplied with drawing tables, boards, squares, rubber curves, odontographs, and all the other appliances useful to draughtsmen.

In order to meet the increased demand, a new building is being erected for the use of this school, and will be finished during the summer. In addition to recitation rooms and two large draughting rooms, it will contain a carpenter's shop, machine shop, blacksmith's shop, and foundry. It will be well supplied with new and improved machinery, a large appropriation having been made for such purchases. In addition, it will contain a powerful testing machine for experimental work by the students in the subject of the strength of materials.

SCHOOL OF SCIENCE.

The especial object of the School of Science is to give a thorough training in biological, chemical and physical science. It combines with this as much literary, mathematical and philosophical work as possible.

FRESHMAN YEAR.

BOTANY.—Thirty-eight weeks, ten hours per week. The instruction in Botany comprises—

1. *Laboratory work*, in which students will investigate for themselves the structure of a series of plants illustrating various types, beginning with the simple and proceeding to the more complex.*

Each student prepares and mounts thin sections and dissections for examination with the microscope.

Part of the time during the last term will be devoted to classifying some of the common flowering plants of the vicinity.

Ink drawings of dissections are required.

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* The following series, or such parts of it as time permits, will be used: Protococcus, Oscillaria, Spirogyra, Cystopus candidus (White Rust), Microsphæra Friesii (Lilac Mildew), Marchantia polymorpha (Liverwort), Atrichum undulatum (Moss), Adiantum pedatum (Maiden's-hair fern), Pinus sylvestris (Scotch pine), Avena sativa (Oats), Trillium and Capsella Bursa-pastoris (Shepherd's purse).

2. *Lectures* and *quizzes* at such times as seem most opportune. The lectures are intended to supplement the laboratory work by pointing out the bearing of the facts observed upon the relationships of the plants and their life history.

3. *References* to standard books for private reading.

By such instruction it is meant to accomplish three things:

(*a.*) To train the student in methods of anatomical and systematic study and observation, which may be applied to any plant.

(*b.*) To point out the peculiarities and relationships of the forms studied and so give a *general* idea of the plant kingdom, based upon the student's own observations.

(*c.*) To give a knowledge of the various tissues and combinations of tissues which enter into the structure of plants.

[The work in Botany done in the good High Schools, though not directly preparatory to the preceding course, will be of assistance to the student; this course, however, is not dependent on such preparatory work.]

INSTRUCTOR, *Prof. Barnes.*

RHETORIC.—Thirty-eight weeks, five hours per week. See English and History, page 51.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 53.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 53.

DRAWING.—Thirty-eight weeks, five hours per week. See Object Drawing, Orthographic Projection and Linear Perspective, page 47.

SOPHOMORE YEAR.

ZOOLOGY.—Thirty-eight weeks, ten hours per week.

The student is directed to acquire for himself a knowledge of the structure of the organs and their mode of working in a number of forms of animal life, representative of the great natural groups. The student does his own work, aided by proper guidance, and learns to observe for himself with scalpel and microscope the rough anatomy and finer structure of the organs.

Practice in accurately stating the results of his observations is secured, the student being called upon to describe fully his work and to illustrate it by clear diagrams and drawings. The course includes a study of the embryology of the chick.

INSTRUCTOR, *Prof. Osborn.*

PHYSICS.—Thirty-eight weeks, five hours per week. See Physics, page 55.

LOGIC.—Fifteen weeks, five hours per week. See English and History, page 51.

ENGLISH LITERATURE.—Twenty-three weeks, five hours per week. See English and History, page 52.

HIGHER ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 53.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 53.

SURVEYING.—Eleven weeks, five hours per week. See Mathematics, page 53.

JUNIOR YEAR.

BOTANY.—Fifteen weeks, ten hours per week. The instruction includes laboratory work, with references to the literature of the subjects studied. The laboratory work will consist in the study of **Histology of Phanerogams or Cryptogams,** intended to give a wider and more detailed knowledge of the methods of investigation and facts concerning the minute structure of the various plants selected. It is based upon the work done in the Freshman Year.

A student electing the study of Cryptogams may confine his investigation to the injurious fungi if he so desires.

INSTRUCTOR, *Prof. Barnes.*

ZOOLOGY.—Thirteen weeks, ten hours per week. A course of practical instruction upon the special morphology of some group; *e. g.*, cœlenterates, crustacea, vertebrates, with a view to acquaint the student with some of the deeper problems that underlie the science of zoology, and their application in bringing the results of his observation into a coherent and logical system; or if he desires, the student may substitute here the study of some group of animals of economic interest.

INSTRUCTOR, *Prof. Osborn.*

UNIVERSAL HISTORY.—Thirty-eight weeks, five hours per week. See English and History, page 52.

ANALYTICAL GEOMETRY.—Twenty weeks, five hours per week. See Mathematics, page 53.

CALCULUS.—Eighteen weeks, five hours per week. See Mathematics, page 53.

GERMAN.—Ten weeks, five hours per week. See German, page 55.

SENIOR YEAR.

PHYSIOLOGY.—Nineteen weeks, five hours per week. The course will comprehend a thorough study of Martin's "Human Body" with copious illustration by demonstration of the simpler experiments, and with a full course in animal histology carried on by the students in the laboratory.

INSTRUCTOR, *Prof. Osborn.*

GEOLOGY.—Sixteen weeks, five hours per week. The first ten weeks will be devoted to structural and dynamical and the last six weeks to historical Geology.

INSTRUCTOR, *Prof. Barnes.*

PSYCHOLOGY.—Seventeen weeks, five hours per week. See Political and Intellectual Science, page 55.

POLITICAL ECONOMY.—Eighteen weeks, five hours per week. See Political and Intellectual Science, page 55.

GERMAN.—Thirty-eight weeks, five hours per week. See German, page 55.

ELECTIVE WORK.—Thirty-eight weeks, ten hours per week. Students must select one line of work in **Literature, Science** or **Art,** as may be determined, upon consultation with the Faculty; provided, that no new classes will be formed of less than three students.

APPARATUS AND APPLIANCES.

BIOLOGICAL APPARATUS.

There are twenty-two dissecting microscopes, eighteen of Bausch and Lomb's "Compact" dissecting microscopes, with two single lenses ($\frac{3}{4}$ and $\frac{1}{2}$ inch), and four of Beck's dissectors. There are thirty-two compound microscopes. One is Beck's "Large Best," monocular, with a battery of objectives from 3 inch to $\frac{1}{20}$, and a full set of accessories; seventeen are Beck's "New Economic" stands, furnished with two eye-pieces and two objectives $\frac{2}{3}$ and $\frac{1}{6}$; the remainder are the Bausch and Lomb Optical Co.'s "Model," with two eye-pieces and two objectives, 1 and $\frac{1}{4}$.

There are ten cases of dissecting instruments, each containing two scalpels, cartilage knife, tracer, forceps, fine and coarse scissors.

Thoma's microtome, and the Army Medical Museum microtome, with ice box for freezing, give ample facilities for the finest section cutting.

For projections there is a first-class lantern, furnished with a large assortment of slides illustrating human and plant anatomy. This is convertible in a few moments into a projecting microscope, by means of which the image of any transparent microscopic preparation can be thrown on the screen. Light is furnished by the Brush automatic electric lamp.

CABINETS AND MUSEUM.

The Geological Cabinet embraces the following materials:

1. Minerals.—About two hundred species of minerals represented by cabinet specimens; working specimens of the majority. The ores of gold, silver, lead and iron, with their associated minerals, are well represented.

2. Fossils.—Specimens illustrating the life of the Silurian, Devonian and Carboniferous ages. Among the rest a fine set of crinoids from the sub-carniferous beds at Crawfordsville, and a number of beautifully preserved ferns from the coal measures of Indiana and Illinois, are to be noted.

3. *Archæology.*—An interesting collection of stone and flint implements of the pre-historic inhabitants of this country.

The Zoological collections are full enough to furnish the material necessary for the student's use. They comprise a series of articulated skeletons, viz: Man, mole, squirrel, rabbit, cat, dog, lion, horse, cow, deer, porpoise, sloth, owl, crow, grouse, peacock, parrot, duck, snake, iguana, turtle, frog, gar-pike, and sheeps-head; and the following disarticulated: opossum, musk-rat, alligator and green turtle, and a number of skulls, mostly of birds—a few mounted skins of mammals—150 mounted, 100 unmounted skins of birds, our common reptiles and amphibia in alcohol, and a set of the fishes of our Atlantic and Pacific Coasts from the Smithsonian Institution.

The invertebrates comprise, (1) a large conchological collection besides a collection of the most familiar mollusks of our Atlantic Coast, collected in part by the United States Fish Commission and in part at Beaufort, N. C. (2) The Scheuch collection of pinned Coleoptera, over two thousand species, and a large collection of tracheates from this region. (3) Over one hundred species of crustacea, (4) meagre representatives of annelid and other worms, and (5) a fair representation of the Echinoderm and Cœlenterates.

The Botanical Collection consists of—

1. An herbarium of over 2,000 species, mounted and labeled. It is specially full in the sets of grasses and sedges of this State, and ferns of the United States, each being nearly complete. A private herbarium of 1,500 species is also accessible to students.

2. A set of 300 economic products of plants.

3. A set of the woods of the United States, collected and presented by the Forestry Department of the Census Bureau. A set of native woods of this and adjoining counties, seeds, sections and moist preparations.

4. Microscope slides and alcoholic specimens.

The Peirce Conservatory furnishes an abundance of fresh material for illustration.

Donations to the museum have been received from many friends during the year.

CHEMICAL APPARATUS.

The University has a good supply of chemical apparatus and a well equipped laboratory. Each student is furnished with a full set of apparatus and the necessary chemicals for all his work and experiments, and he is held responsible for their proper use. He is charged with actual breakage and damage.

SCHOOL OF INDUSTRIAL ART.

The object of this School is, in addition to giving a good general education, to give instruction in Object Drawing in outline, Light and Shade, and Color; in Orthographic Projection, or the the drawing of plans, elevations and sections; in Linear Perspective; in Wood Carving, Clay Modeling and Decorative Design.

FRESHMAN YEAR.

INDUSTRIAL ART.—Thirty-eight weeks, fifteen hours per week. **Object Drawing.**—This includes free-hand outline drawing from round geometrical solids as cylinders, cones, vases, and crockery-ware; from straight line objects, as cubes, prisms, crosses and pyramids; also the drawing of the above objects in groups and their application in drawing chairs, tables, sofas and buildings. **Orthographic Projection.**—The instruction in this subject includes the drawing of about one hundred problems illustrating the principles for making "working drawings", including plans, elevations, developments and intersections. **Linear Perspective.**—This subject includes the working of about one hundred problems illustrating the principles of parallel, angular and oblique perspective, and showing how to put into perspective any object. **Light and Shade.**—Under this head model and object drawing in light and shade will be taught, using first the crayon and stump, and afterwards charcoal, sepia, neutral tint, and India ink. **Color.**—The instruction here embraces the theory of color, including the principles of harmony and contrast, and practice in water and oil colors, as applied to object drawing. **Historical Ornament.**—The characteristics of the different styles of historical ornament, ancient mediæval and modern, will be explained and illustrated by examples. The instruction in this first year's course is given by lectures from charts and the blackboard. No text-book is used.

INSTRUCTOR, *Prof. Thompson.*

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 53.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 53.

RHETORIC.—Thirty-eight weeks, five hours per week. See English and History, page 51.

SOPHOMORE YEAR.

INDUSTRIAL ART.—Thirty-eight weeks, ten hours per week. Students who have satisfactorily completed the work of the Freshman year in the School of Industrial Art are supposed to have a fair knowledge of drawing. Those who wish to graduate in this course must take Decorative Design in their Senior year. The Sophomore and Junior years, however, may both be spent on Wood-Carving or on Clay-Modeling, or one year each on Wood-Carving and Clay-Modeling. **Wood-Carving.**—At first the sharpening and the proper handling of tools are taught. Incised and low-relief carving is then practised, followed by medium and high relief work, as skill in the use of tools may warrant. Students begin to carve easels, tables, sideboards, etc., soon after entering the carving class.

INSTRUCTOR, *Prof. Thompson.*

HIGHER ALGEBRA.—Twelve weeks, five hours per week. See Mathematics page 53.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 53.

SURVEYING.—Eleven weeks, five hours per week. See Mathematics, page 53.

LOGIC.—Sixteen weeks, five hours per week. See English and History, page 51.

ENGLISH LITERATURE.—Twenty-two weeks, five hours per week. See English and History, page 52.

PHYSICS.—Thirty-eight weeks, five hours per week. See Physics, page 55.

JUNIOR YEAR.

INDUSTRIAL ART.—Thirty-eight weeks, ten hours per week. **Clay Modeling.**—The study and practice of this subject is a good preparation for work in wood, iron, stone, marble, silver or gold. It is indispensable to the first-class plasterer, stone-cutter, and sculptor. After some practice in modeling simple ornaments, leaves, fruit, flowers, etc., the student is allowed to work on such subjects as will probably be of use in his future profession,—it may be tiles, pottery, terra cotta, or the human figure.

INSTRUCTOR, *Prof. Thompson.*

ANALYTICAL GEOMETRY.—Twenty weeks, five hours per week. See Mathematics, page 53.

CALCULUS.—Eighteen weeks, five hours per week. See Mathematics, page 53.

UNIVERSAL HISTORY.—Thirty-eight weeks, five hours per week. See English and History, page 52.

CHEMISTRY.—Twenty-eight weeks, ten hours per week. See Chemistry, page 54.

GERMAN.—Ten weeks, ten hours per week. See German, page 55.

SENIOR YEAR.

INDUSTRIAL ART.—Thirty-eight weeks, ten hours per week. **Decorative Design.**—This course is intended to prepare students for designers of furniture, architectural and hardware ornamentation, as well as of calicos, carpets, oil-cloths, china-ware, pottery, embroidery, frescoes, etc. The principles of flat and sculptured ornamentation are studied and applied in designing borders, and surface decorations of all kinds, enumerated above. Methods of enlarging, reducing, and repeating patterns.

as well as processes of weaving and printing, and the manner of adapting designs to different materials, and of adjusting patterns to the size of the blocks or rollers employed, will be explained.

INSTRUCTOR, *Prof. Thompson.*

GERMAN.—Thirty-eight weeks, five hours per week. See German, page 55.

PHYSIOLOGY.—Nineteen weeks, five hours per week. See Physiology, page 44.

GEOLOGY.—Sixteen weeks, five hours per week. See Geology, page 44.

PSYCHOLOGY.—Seventeen weeks, five hours per week. See Political and Intellectual Science, page 55.

POLITICAL ECONOMY.—Eighteen weeks, five hours per week. See Political and Intellectual Science, page 55.

APPARATUS AND APPLIANCES.

This department is supplied with (1) flat copies for outline drawing; (2) flat copies in light and shade for crayon work; (3) colored copies for water color painting; (4) flat copies for carpentry, architectural, and machine drawing; (5) charts to illustrate the botanical analysis of plants for purposes of design; (6) charts to illustrate analysis of historical ornament; (7) charts to illustrate harmony and contrast of color; (8) a great variety of geometrical solids, vases, and casts for model drawing; (9) samples of prints and other textile fabrics, wall paper, carpets, etc., to illustrate the application of design to manufactures; (10) appliances for modeling in clay; (11) a potter's wheel for turning pottery; (12) an excellent selection of casts from ancient and modern sculpture, including busts of the Venus de Milo, Apollo de Belvidere, Diana, Psyche, Paris, Ajax, Michael Angelo, Raphael, and medium sized statues of Minerva, Psyche, Flora, and M. Angelo's Moses, etc. The Library also contains a number of very valuable books of reference and journals for the use of art students.

GENERAL STUDIES.

ENGLISH AND HISTORY.

The design of this work is to perfect the student in the use of language; to acquaint him with the literature of his mother tongue, its development and a method of studying its standard works; and to discuss with him some of the great facts and principles involved in the progress of the human race. The character and extent of the work done in the different years is shown below.

FRESHMAN YEAR.

The course in English in the Freshman year includes Composition and Rhetoric. The instruction in **Composition** is designed to be practical, and is made as comprehensive and varied as the time devoted to the subject will permit. Special attention is given to both substance and form, the purpose being to enable the student to use a wise discrimination as to that about which he writes, and as to the arrangement of his thoughts in a systematic and tasteful way. The largest liberty of individual judgment and expression, consistent with propriety and good taste, is allowed.

The course in **Rhetoric** includes instruction in the leading principles of the art; a thorough drill in figures of speech, with analyses of figurative writings; a careful study of the styles of various writers, their excellencies and defects; and some instruction upon the methods of argumentation and persuasion.

SOPHOMORE YEAR.

The aim of the work in the Sophomore Year is to perfect the student in the mechanical forms, the figures, and the diversities of language used as a medium of expression.

Supplemental to this and combining with it as a preparation for the study of English Literature, **Elementary Logic** is taken up in the fall term. Here attention is directed to the thought side of language and a careful examination made, through varied exercises, of the content, the force, and the logical relationships of words and sentences.

The last two terms of the year are devoted to the study of the growth and the philosophical and historical development of **English Literature.** The plan pursued in the study embraces the following points: (1) The historical setting of each literary epoch; (2) The forms of literature most prominent in that epoch; (3) The authors in whose works these forms are best shown; (4) The style and characteristics of the literature of the period, as determined by reading and discussing in class one or more standard writings of the age; (5) The contemporaneous development of other literature than the English; (6) The effects of literary culture upon art, science, morality, government, etc., etc.

JUNIOR YEAR.

The work of this year embraces the study of **Ancient, Mediæval** and **Modern History.** Less attention is given to the chronology and more to the philosophy of history; less to the conflicts of force and more to the conflicts of mind. The art, the campaigns, and the results of war are made subsidiary to the developments and the accomplishments of peace. The home life, the social life, the religious, the political, and the industrial life of the people of all ages and states are examined closely, and the annals of events studied from these standpoints.

In the latter part of the year a short time is given to the study of the constitutional history of the United States.

The text-book is supplemented by frequent lists of questions requiring thought and investigation, by topics assigned for essays, and by short lectures.

SENIOR YEAR.

The literary work of this year is elective, subject to the suggestion and approval of the Faculty.

FACILITIES.

The valuable library of the University, which has lately been strengthened by important additions of reference works for students pursuing these lines of study, affords a fine opportunity for original investigation, and for the formation of independent opinions upon literary and historical questions.

INSTRUCTOR, *Prof. Smith.*

MATHEMATICS.

FRESHMAN YEAR.

The first term is devoted to **Plane Geometry**, in which the student is required to demonstrate the theorems with logical accuracy, and to construct the problems with such care that the deduced lines measured on a scale of equal parts will be found practically correct.

Theorems and problems not found in the text-book are frequently given as exercises in original work.

The second term is given to **Solid and Spherical Geometry**, and in the third term **Higher Algebra** is commenced.

SOPHOMORE YEAR.

The first term is devoted to the continuation of **Higher Algebra** and the student is thoroughly drilled in the subjects of *Indeterminate Coefficients*, *Loci of Equations*, *Theory and Use of Logarithms*, *Indeterminate Equations*, *General Theory of Equations*, including *Sturm's Theorem*, *Cardon's Rule for Cubics* and *Horner's Method of Approximation*, and kindred subjects.

The second term is devoted to **Plane and Spherical Trigonometry**, and the third term is devoted to **Surveying**. Ample time is spent in field work to familiarize the student with the use of the instruments. He obtains data for the examples illustrative of the various Rules laid down in the text-book, and thus learns the practical as well as the theoretical part of the science.

JUNIOR YEAR.

The first half of this year is spent in the study of **Analytical Geometry.** It is the intention to give such instruction in this branch as will fit the student for the **Calculus**, which branch is pursued for the rest of the year.

SENIOR YEAR.

Astronomy is made an elective study during the Senior year. Students taking this course will be required to construct star maps so arranged that they can easily distinguish the different constellations which may be in view on any clear evening of the year, by simply referring to these maps. They will also learn how to find the latitude and longitude of a place, to calculate solar and lunar eclipses, and to solve various other interesting astronomical problems.

APPARATUS.

Belonging to the University is an excellent leveling instrument, also one of Gurley's transit instruments, furnished with a solar attachment; and an engineer's chain.

The transit with the solar attachment is a very valuable instrument, and students are thoroughly drilled in its use.

The students in Astronomy will have access to a fine Telescope (made by Alvan Clark & Sons). This instrument clearly shows the satellites of Jupiter, the rings of Saturn, and resolves many of the double stars and principal nebulæ.

INSTRUCTOR, *Prof. Stevens.*

CHEMISTRY.

JUNIOR YEAR.

General Chemistry.—Daily exercises (lectures, recitations, and laboratory work) during the first and second terms, will include the preparation, properties and detection of the more important elements and compounds, with the outlines of qualitative analysis. Chemical philosophy will be gradually introduced, as the students acquire a sufficient variety of facts from which to generalize. This work is required of all Juniors.

Agricultural Chemistry.—Lectures and laboratory work will be provided during the spring term on the chemistry of soils, the ash of plants, the proximate constituents and the growth of plant and animal, and the chemistry of feeding and the dairy. This is required in the School of Agriculture, and elective in the School of Science.

Metallurgical Chemistry.—Lectures will be given during the spring term upon fuels, clays, ores, and the manufacture and refining of cast iron, wrought iron, steel, copper, zinc, tin, brass and bronze. Students will have practice in the qualitative analysis of ores and manufactured products. This is required in the School of Mechanics and Engineering, and elective in the School of Science.

INSTRUCTOR, *Prof. Warder.*

PHYSICS.

SOPHOMORE YEAR.

Instruction will be given by recitations and lectures. The most important physical laws will be demonstrated by *quantitative* experiments performed by the students themselves under the supervision of the director. The greater part of the *qualitative* experiments will be shown on the lecture table.

INSTRUCTOR, *Prof. Huston.*

POLITICAL AND INTELLECTUAL SCIENCE.

SENIOR YEAR.

The instruction in **Political Economy** aims to train the student in probable reasoning and to guard him against hasty generalizations in those departments of the science where the facts are not well determined and known. Special attention is given to those subjects which more directly relate to agricultural and mechanical interests.

The instruction in **Psychology** (Porter's Intellectual Science) does not differ essentially from that given in other colleges. The aim is to give less attention to the speculative and historical phases of the science and more to the empirical and practical.

INSTRUCTOR, ————

GERMAN.

JUNIOR AND SENIOR YEARS.

Provision will be made for instruction in German after the most approved methods.

OPTIONAL WORK.

Persons who are qualified to do so, may be permitted for special reasons to select single or related lines of work in any School. The Faculty will in each case prescribe the minimum amount of time to be spent in such work. A certificate stating the amount of work done will be given to students who pursue any special studies.

Regular students will not be permitted to select any study which will cause them to become irregular.

MILITARY TACTICS.

Instruction in Military Tactics is provided for by the law of Congress endowing this institution, and for several years such instruction has been given. The joining of the company is *voluntary*, but, when a student becomes a cadet, he is held to regular attendance and military discipline during the period of his enlistment, which shall be for the college year. For unexcused absence or misconduct, a cadet may, at the Captain's discretion, be suspended from the company or be reported to the Faculty for discipline. The company is supplied with the best breech-loading rifles, with complete accoutrements. Upton's Tactics is used as a text-book.

ADMISSION.

CONDITIONS OF ADMISSION.

Applicants for admission to the Freshman Class should be over sixteen years of age. Those possessing more than common physical health and strength, with high attainments in preparatory studies, may be admitted at an earlier age. Good character is a requisite.

They must pass a satisfactory examination in Reading, Writing, Spelling, Descriptive Geography, History of the United States, English Grammar, Arithmetic, and in Algebra, including Quadratic Equations. The applicant's knowledge of English Grammar, Arithmetic, and the elements of Algebra must be thorough. It is recommended to those who have not recently studied these branches, that they review them before applying for admission.

In **English**, attention will be given to the following matters:

1. Spelling, punctuation and capitals.
2. Power to comprehend and express the thought contained in selections.
3. Ability to compose creditably upon ordinary topics.
4. Grammatical construction, *i. e.* proper cases of nouns and pronouns, agreement of verbs with their subjects, correct forms of the verbs, use of the right prepositions, etc.
5. Ability to analyze to such an extent as to show a thorough knowledge of sentential structure.
6. Neatness and system.

In **United States History**, it is expected that the applicant will know:

1. So many of the prominent events, with their dates, as will indicate a good knowledge of these events in proper order.
2. The causes and the results of notable changes in institutions, government, customs, etc.
3. The geography of places prominent in United States history.
4. Important inventions, territorial growth, progress in manufactures, commerce, mining, etc.

☞For questions indicating the character of the examination, see page 77.

In **Arithmetic**, special attention is directed to the following subjects: Greatest Common Divisor, Least Common Multiple, Common and Decimal Fractions, Denominate Numbers, including the Metric System of Weights and Measures; Percentage, including Interest, Discount and Commission; and Extraction of the Square and Cube Roots.

In **Algebra**, the applicant should be thorough in the Fundamental Operations, Equations of the First Degree with one or more unknown quantities, Equations of the Second Degree, Radicals, and Ratio and Proportion.

For samples of questions given, see page 76.

ADMISSION WITHOUT EXAMINATION.

Applicants who have completed their course of preparation in High Schools, which have been commissioned by the State Board of Education, will be admitted to the Freshman class without examination.

Students entering Purdue University from the Indiana University will receive credit for all studies pursued in the latter institution, as attested by its Faculty, without further examination.

ADMISSION TO ADVANCED CLASSES.

Should any graduates of commissioned High Schools desire to enter an advanced class in the University, they will be examined at the University on the work only which has already been accomplished by the class to which entrance is desired.

Advanced students who can pass an examination upon the the English and Mathematics done in our Freshman and Sophomore years, may take the technical work done in those two years in one year, and thus be enabled to complete any one of the courses in three years.

MATRICULATION PLEDGE.

As a condition of admission to the University, or any department therein, or of re-entrance, students are required to subscribe to all regulations of the University relating to the obligations and duties of students, and promise a faithful compliance therewith during their connection with the University; that is, until dismissed or graduated. The pledge prescribed is as follows:

I hereby subscribe to all the regulations of Purdue University which relate to the duties and obligations of students, and I promise on my honor a faithful compliance therewith during the University year ending June —, next.

A copy of the rules and regulations of the University will be forwarded to any address upon application.

EXAMINATIONS FOR ADMISSION.

Entrance examinations are held at the University in June, July and September of each year. In 1885 the first examination will begin June 9th, the second July 30th, and the third September 8th. Applicants may appear at any examination; but, when practicable, it is best to apply for examination in June.

Examinations will usually require two days. *Candidates must be present at 9 A. M.* on the days specified.

Arrangements have been made for holding entrance examinations in the several counties of the State, under the direction of County Superintendents. Applications for such an examination should be made to the President of the University, Lafayette, Indiana. On the receipt of one or more applications from any county, printed questions, with directions, will be sent to the County Superintendent, and the applicant or applicants may present themselves at the regular county examination for teachers, held the last Saturday of the month. The written answers will be forwarded to the University, where they will be read and graded, and a certificate of admission forwarded to each applicant who has passed the examination.

This local examination will occur on the last Saturday of August.

Applicants should state whether they wish to be examined for the Preparatory or for the Freshman Class.

APPLICATIONS FOR ADMISSION.

Application for admission to any department of the University should be made to the President, and prior to the opening of a year or term, when this is practicable. In making application by letter, applicants are requested to give their age, the studies which they have pursued, and a general idea of their attainments. A catalogue will be sent to any address, on application. Address, President of Purdue University, Lafayette, Indiana.

DEGREES.

Graduate Degrees.

I. The degree of Bachelor of Science (B. S.) will be conferred upon students who complete the prescribed course of study in either the School of Science, the School of Agriculture, or the School of Industrial Art.

II. The degree of Bachelor of Mechanical Engineering (B. M. E.) will be conferred on students who complete the prescribed course of study in the School of Mechanics and Engineering.

Post-Graduate Degrees.

I. The degree of Master of Science (M. S.) will be conferred upon the following conditions:

(*a*) Candidates must have received the degree of B. S. at this University, or at some other institution having equal requirements for it.

(*b*) Candidates must pursue and complete, at Purdue University, a special course in advanced science, pass an examination thereon and present a satisfactory thesis.

(*c*) Graduates of Purdue University may, by permission of the Faculty, substitute for condition (*b*) the following, in which case a residence at Purdue University will not be required, viz.: Having held the degree of B. S. for not less than three years, they must pursue a special course in advanced science under the direction of the Faculty, pass an examination thereon and present a satisfactory thesis.

II. The degree of Mechanical Engineer (M. E.) will be conferred upon the following conditions:

(*a*) Candidates must have received the degree of B. M. E. at this University, or the degree of B. S. or B. M. E. at some other institution, whose requirements for such degree are equal to our requirements for the degree of B. M. E.

(*b*) Candidates must pursue and complete, at Purdue University, a special course in Mechanical Engineering, pass an examination thereon and present a satisfactory thesis.

(*c*) Graduates of Purdue University may, by permission of the Faculty, substitute for condition (*b*) the following, in which case a residence at Purdue University will not be required, viz.: Having held the degree of B. M. E. for not less than three years, during at least two years of which they must have been engaged in professional work, they must pass an examination and present a satisfactory thesis.

III. The degree of Analytical Chemist (A. C.) will be conferred upon the following conditions:

(*a*) Candidates must have received the degree of B. S., B. M. E. or B. A. at this University, or at some other institution having equal requirements, and must have as much special training in Chemistry as that afforded our own undergraduates.

(*b*). Candidates must pursue and complete, at Purdue University, a special course in Analytical, Theoretical and Industrial Chemistry, pass an examination thereon and present a satisfactory thesis.

The shortest time in which any one of the special courses referred to in conditions (b) can be completed will be one year; and, unless the candidate is exceptionally well prepared, a longer time will be required.

The required theses must be presented at least three weeks before Commencement Day.

A fee of five dollars for the diploma, in the case of graduate as well as of post-graduates degrees, must be paid to the Registrar before Commencement week.

POST-GRADUATE WORK.

Graduates of this and other colleges, who desire to pursue special lines of study or investigation, will be afforded laboratory facilities for such work, under the direction of the Faculty.

THE PREPARATORY CLASS.

INSTRUCTORS.

Oscar J. Craig, A. M., Principal.
Miss Flora E. Weed, } Assistants.
Mrs. Sarah E. Barnes, } Assistants.
William C. Latta, M. S., Agriculture.
Langdon S. Thompson, A. M., Industrial Drawing.
William F. M. Goss, Mechanical Drawing.
Michael Golden, Shop Work.

The Preparatory Class affords instruction in Algebra, Arithmetic, English, Physiology, Physical Geography, and History of the United States. The students who complete the required work in these subjects are prepared to enter the Freshman classes of any of the various schools of the University.

In addition to this regular course, instruction is also given in Agriculture, Shop Work and Mechanical Drawing, and Industrial Drawing. Students who make their preparation elsewhere for the Freshman classes of the University are not required to pass examination in these special industrial subjects. The requirements for admission to the Freshman class are given on page 50.

The Preparatory Class is in charge of a regular Professor of the University, and is provided with commodious rooms and all the appliances necessary for thorough and practical instruction. The fine apparatus found in the other departments of the University is used by the instructors of this class. The library is accessible to all students, and contains an excellent selection of the books needed for reference in pursuing the Preparatory studies. The course of study embraces one year's work, and is arranged as follows:

COURSE OF STUDY.

FIRST TERM.

REQUIRED.

Algebra. Fundamental Rules, Factors, and Multiples.— *Wentworth.*

Arithmetic. Review of the Metric System, Percentage, Proportion, Involution and Evolution.— *White.*

English. English Grammar Reviewed, Analysis and Parsing.—*Harvey.*

History. United States History, Reviewed.—*Ridpath.*

ELECTIVE.

Agriculture, Shop Work and Mechanical Drawing, Industrial Drawing.

SECOND TERM.

REQUIRED.

Algebra. Fractions and Equations of the First Degree.— *Wentworth.*

English. English Grammar Reviewed, Parsing and Analysis.—*Harvey.*

Physiology. The Human Body.—*Martin.*

ELECTIVE.

Agriculture, Shop Work and Mechanical Drawing, Industrial Drawing.

THIRD TERM.

REQUIRED.

Algebra. Quadratics, Radicals, Ratio and Proportion.— *Wentworth.*

English. English Literature and Composition.—*Selected.*

Physical Geography.—*Houston.*

ELECTIVE.

Agriculture, Shop Work and Mechanical Drawing, Industrial Drawing.

REMARKS ON THE COURSE OF STUDY.

Students who enter the Preparatory Class will, in addition to the required academic work, select one of the industrial subjects marked elective, and having made the selection will continue the subject until the end of the year.

On entering the Freshman Class, a change of course will be permitted, although those who expect to follow the Agricultural course are advised to elect Agriculture in the Preparatory; those who intend to pursue the Mechanical course to elect Shop Work and Mechanical Drawing, and those who intend pursuing either the Industrial Art course or the Science course to elect Industrial Drawing.

The special work in Agriculture will be arranged as follows: During the first term instruction will be given in the subject of General Farming, during the second term in Stock Raising, and during the third in General Horticulture.

The Shop Work will include Bench Work in wood--giving practice in the use of the common carpenter's tools, and machine work in wood, including circular sawing and scroll sawing, and turning. The Mechanical Drawing will include practice in sketching and in making drawings to scale, in plan, elevation, and section from copy.

The work in Industrial Drawing is as follows: *First Term*—Outline drawing from objects, such as cylinders, cones, vases and such common objects as illustrate the circle seen obliquely; the drawing of cubes, of square, triangular and hexagonal prisms, crosses, skeleton cubes, etc. *Second Term*—The drawing of objects in Light and Shade. Objects similar to the above will be drawn and shaded, using the crayon and stump, and afterwards charcoal, sepia, neutral tint, India ink, etc. *Third Term*—Shading will be continued during this term.

CONDITIONS OF ADMISSION.

Applicants for admission to the Preparatory Class should be fifteen years of age. They must pass a satisfactory examination in Arithmetic, Geography, English Grammar, Reading, Spelling, and Writing. The examination must show a good knowledge of these elementary branches as taught in the common schools.

Arrangements have been made for holding examinations for admission to the Preparatory Class in the several counties of the State under the direction of County Superintendents. Applications for examination should be made to the President of the University, or to the Professor in charge of the class, Lafayette, Indiana. For fuller directions, see page 59.

Applicants from other schools should bring certificates both as to scholarship and deportment.

Applicants who are known to have bad habits will not be admitted. When a student's habits and influence are found to be immoral, his connection with the Preparatory Class will be terminated.

ADVANTAGES.

LOCATION, GROUNDS AND BUILDINGS.

Purdue University is located about one mile west of the city of Lafayette, and within the village of Chauncey. The grounds are over one hundred feet above high-water mark in the Wabash river, and the buildings command a fine view of the city, valley and surrounding country. Lafayette is situated at the intersection of four railroad lines, extending respectively from Cincinnati and Indianapolis to Chicago, from Toledo to St. Louis, from Louisville, Ky., to Chicago, and from Sandusky, Ohio, to Bloomington, Ill. These roads give the University direct railroad connection with all parts of the State.

The campus and gardens contain twenty acres and are beautifully laid out with walks and drives.

There are six large college buildings, viz: (1) the University Hall containing the chapel, two society halls, museums, library and recitation rooms. (2.) A boys' dormitory with accommodations for ninety students. (3.) A building used for a young ladies' dormitory, a dining-hall and the Art Department. (4.) A Chemical and Physical laboratory. (5.) Agricultural Hall containing recitation rooms, an agricultural museum and the agricultural experiment laboratories. (6.) A Mechanic's Hall, including machine shop, forge shop, foundry, wood-working shop, with commodious draughting and recitation rooms.

Besides these there are several other buildings, including boiler and gas house, military hall, green house, and several farm buildings.

LIBRARY.

The Library occupies a commodious and well-lighted room, appropriately fitted and furnished. It contains a valuable collection of books of reference in each department, and a large number of miscellaneous works, many of standard value. The number of volumes in the Library, April 1, 1885, exclusive of pamphlets and unbound works, was 3,081.

The Reading Room is supplied with the following journals and periodicals, viz.:

Agricultural Gazette, American Agriculturist, American Bee Journal, American Dairyman, American Grange Bulletin, American History Magazine of, American Journal of Science, American Machinist, American Microscopical Journal, American Naturalist, Art Amateur, Art Interchange, Art Magazine of, Atlantic Monthly, Blackwood's Magazine, Blacksmith and Wheelwright, Botanical Gazette, Breeders' Gazette, British Quarterly Review, Canadian Entomologist, The Century, Chemical News, Country Gentleman, Decorator and Furnisher, Drainage and Farm Journal, Edinburgh Review, Education, Engineering, Gardener's Monthly, Harper's Monthly and Weekly, Indiana Farmer, Journal of Royal Microscopical Society, Locomotive, London Quarterly Review, Mechanics, The Microscope, The Nation, National Live Stock Journal, Nature, New England Farmer, New England Journal of Education, New York Weekly Tribune, North American Review, Popular Science Monthly, Poultry World, Science, Scientific American and Supplement, Watchman, Western Manufacturer, Westminster Review, and several daily papers.

SOCIETIES.

Three literary societies are open to students—the Irving, the Philalethean, and the Carlyle; the first and third for young men, the second for young women. The exercises consist principally of essays, declamations, debates, and orations, and are an efficient means of improvement in writing and speaking. The college societies have commodious halls, neatly carpeted and furnished.

Besides these there is a well organized Scientific Society devoted to the independent study of scientific subjects and an Art Club, both holding monthly meetings.

RELIGIOUS EXERCISES.

All students are required to attend morning prayers in Purdue Chapel daily at 10:15 A. M., except Saturday and Sunday.

Religious service is held in Purdue Chapel every Sunday afternoon at 3:30. Attendance upon this service is voluntary. The exercise is entirely unsectarian in its character, consisting of a sermon or a lecture upon some religious topic, and prayer, Bible reading and singing. This service is conducted by the members of the Faculty or by persons who may be invited to do so by the President.

A branch of the Young Men's Christian Association was organized by the students in 1880. It has held regular meetings, and has conducted Bible classes each Sunday afternoon. During the past year a special class has met for Bible study on Sunday evenings.

A Young Woman's Christian Association exists as a separate organization and holds a special prayer-meeting on Thursday afternoon. The young women also participate in the religious meetings of the Young Men's Christian Association.

The following is a list of the Chapel Lecturers on Sunday afternoons for the years 1885–'86:

List of Chapel Lecturers Sunday Afternoon.

1885–6.

Sept.	13.	Rev. W. M. Pettis	Lafayette.
"	20.	Judge James B. Black	Indianapolis.
"	27.	Rev. W. P. Kane	Lafayette.
Oct.	4.	Prof. A. R. Benton, Butler University	Irvington.
"	11.	Rev. Edward Barr	Lafayette.
"	25.	Rev. Alexander Blackburn.	Lafayette.
Nov.	1.	Faculty	
"	8.	Mrs. May Wright Sewall	Indianapolis.
"	15.	E. W. Halford, Editor Journal.	Indianapolis.
"	22.	Rev. Samuel Godfrey	Lafayette.
"	29.	Rev. B. Wilson Smith.	Lafayette.

Dec.	6.	Faculty	
“	13.	Rev. Wm. Graham	Chancey.
“	20.	Dr. A. W. Brayton	Indianapolis.
Jan.	10.	Rev. W. M. Pettis	Lafayette.
“	24.	Rev. W. L. Bell	Lafayette.
“	31.	Hon. John W. Holcombe, State Supt. Pub. Inst	Indianapolis.
Feb.	7.	Hon. Maurice Thompson.	Crawfordsville.
“	14.	Rev. John M. Kendall	Chauncey.
“	21.	Judge Byron K. Elliott	Indianapolis.
“	28.	Rev. W. P. Kane	Lafayette.
Mar.	7.	Rev. L. G. Hay	Indianapolis.
“	14.	Rev. Alexander Blackburn.	Lafayette.
“	21.	President Joseph Tuttle	Wabash College.
“	28.		
April	4.	Faculty	
“	11.	Rev. B. Wilson Smith.	Lafayette.
“	18.	Bishop Knickerbocker.	Indianapolis.
“		Rev. Edward Barr	Lafayette.
May	2.	Faculty.	
“	9.	Rev. Samuel Godfrey	Lafayette.
“	16.	President Alexander Martin	DePauw Univ'ty.
“	23.	Judge R. P. Davidson.	Lafayette.
“	30.	Capt. A. A. Rice.	Lafayette.
June	6.	Baccalaureate	

UNIVERSITY TRANSFER LINE.

Arrangements are being perfected by which coaches will be run between the University and the corner of 9th and Main streets, city, daily, during the college year.

The following is the time table:

Leaving Lafayette at 7:30, 8:30, 9:50 A. M.; 12:05, 1:10, 3:10, 5:00 and 6:20 P. M.

Leaving the University at 6:50, 8:00, 9:00, 11:40 A. M.; 12:40, 3:40, 5:40 and 6:40 P. M.

On special occasions, coaches will be run at about 10:30 P. M.

Coaches will be run on Sundays to suit the convenience of those wishing to attend church.

EXPENSES, BOARDING, ETC.

EXPENSES.

Purdue University is a State Institution, and the tuition is therefore *free* to students who are residents* of the State of Indiana. The expense for board and for incidentals incurred in attending Purdue University are very low. It is believed that few institutions afford equal advantages, at as low a cost.

The charges for the year 1885–86 will be as follows:

Entrance fee in College, per year	$5 00
Entrance fee in Preparatory Department, per term, $2; per year	5 00
Incidental fee in all departments, per term	3 00
Chemicals and gas for course in Chemistry, per term	5 00
Table board per week not exceeding†	2 50
Room rent, heat and light, per week	50
Washing, per dozen, not exceeding†	75

From the above it is seen that a student's expenses for thirty-eight weeks in the College will be as follows:

Entrance and incidental fees	$14 00
Table board (at $2.50 per week)	95 00
Room, heat, and light	19 00
Washing, about	12 00
Total for the year, about	$140 00

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* Persons residing outside of the State of Indiana, who desire to attend Purdue University, will apply to the President of the Faculty for information concerning terms, etc.

† The Boarding House and Laundry are kept by Mrs. G. Stockton, to whom all bills are paid.

All bills must be paid *in advance*, entrance and incidental fees at the beginning of the term or year, and room rent at the beginning of each term. A *pro rata* part of all fees paid in advance will be refunded to students who are withdrawn on account of sickness.

Students taking a course in Chemistry are required to deposit with the Registrar five dollars a term in advance as a breakage fund. The money that is not used will be refunded at the close of the term.

YOUNG MEN'S DORMITORY.

The Young Men's Dormitory is, by a recent order of the Board of Trustees, hereafter to be reserved for the use of appointed students, with the *proviso* that other students who have already acquired Dormitory privileges may, at the discretion of the President, be permitted to occupy rooms in the Dormitory for the year 1885-6, and thereafter, unless otherwise ordered by the Board.

The young men occupying rooms in the Dormitory are required to keep them in good order and to observe all other rules governing their occupancy. A failure to observe such rules, or other disorderly conduct, forfeits a student's right to a room. No firearms are allowed to be kept in the rooms. The occupants of rooms are held responsible for all injury to the same or to furniture and fixtures therein, and all gas burned after 10 o'clock is charged extra. As a condition of occupying a room, a student must deposit with the Registrar five dollars, as a fund to pay for breakage, extra gas, and other fines. When he withdraws from the Dormitory, or at the close of the year, so much of this money as is not required to pay charges will be refunded. Members of the Freshman and Sophomore classes, and of the Preparatory, who occupy the Dormitory, are not allowed to visit the city of Lafayette in the evening, except by permission.

Each suite of rooms in the Dormitory is furnished with bedsteads, washstands and sets, and tables and chairs. Mattresses and bedding, towels, soap, mirrors, brooms, etc., are furnished by students. Young men occupying rooms may procure table-board at the Boarding House or elsewhere, as they may prefer, but self-boarding in the Dormitory is not allowed. Boarders will not be received at the Boarding House for less than a term, but permission to leave will be granted by the President, if the board is not satisfactory.

THE LADIES' HALL.

The young ladies occupying rooms in the Ladies' Hall, are required to keep them in good order and to observe all rules governing their occupancy. Gas consumed after 10 o'clock, and the cleaning of rooms while occupied, will be charged extra. The rooms are neatly carpeted, and are furnished with bedsteads and mattresses, washstands and sets, tables and chairs. The occupants furnish bedding, towels, mirrors, etc. The young ladies who occupy rooms are under the personal supervision of a lady member of the faculty. Only twenty young ladies can be accommodated with rooms.

PRIVATE BOARD.

Students who may not wish to board in the University can obtain board in private families in Chauncey, at reasonable rates. Good accommodations for self-boarding, or for club-boarding, can also be secured in Chauncey, and the cost of board, not including room, may thus be reduced to $2.00 or $2.25 per week. A good sidewalk extends from the University to the village.

STUDENTS APPOINTED BY COUNTY COMMISSIONERS.

A law passed March 12, 1877, gives the Board of Commissioners of each county of Indiana the authority to appoint two students, residents of the county, to Purdue University, and the students thus appointed are exempt from the payment of entrance and incidental fees, and the regular charges for room, heat and light. The reduction thus provided for amounts to $33 a year, or about one-fifth of all necessary expenses of a student. Sixty-nine of the students in attendance the present year were appointed. The students appointed must reside in the county in which the appointment is made.

WORK.

On the Farm.—The farm is cultivated with improved implements, and hence there is but little work which can be done by students. The teams must be handled and cared for by regular hands. About the only assistance which students can render is in harvesting the fall crops and in the care of stock; and this work, as well as that needed on the University grounds, in the nursery, orchard and green house, and in the experimental field, is chiefly done by *the students taking the Agricultural Course.* The amount of other work to be done by the students is very limited, and no one should come to the University depending upon work, if he has not previously made a successful application for it. Students taking the Mechanical Course have an opportunity to do a limited amount of extra work.

In the Shops.—On Saturdays, and at other convenient times, opportunity will be given to those who are proficient in their class work, to add to their experience by making repairs, and in the construction of tools and appliances. For such work students receive compensation varying with the extent of time covered by their shop experience.

CALENDAR FOR 1885-6.

FIRST TERM.

The first term, fifteen weeks, begins Thursday, September 10, 1885, and ends Wednesday, December 23, 1885.

SECOND TERM.

The second term, twelve weeks, begins Tuesday, January 5, 1886, and ends Friday, March 26, 1886.

THIRD TERM.

The third term, eleven weeks, begins Monday, March 29, 1886, and ends Thursday, June 10, 1886.

COMMENCEMENT, THURSDAY, JUNE 10, 1886.

EXHIBITIONS.

The annual entertainments of the Literary Societies are held the second week of the third term.

SAMPLES OF EXAMINATION QUESTIONS.

I. IN ENGLISH GRAMMAR.

1. Write the following selection, giving the proper punctuation and capitals:

had it not rained on the night of the seventeenth of june 1815 the future of europe would have been changed a few drops of water more or less prostrated napoleon the battle of waterloo and this gave blucher time to come up could not be commenced before half-past eleven why because the ground was soft

those who would get a clear idea of the battle of waterloo have only to lay down upon the ground in their mind a capital a the left stroke of the a is the road from nivelles the right stroke is the road from genappe the cross of the a is the sunken road from ohain to braine-l'alleud the top of the a is mont st jean wellington is there the left-hand lower point is hougoumont Reille is there with jerome bonaparte the right-hand lower point is la belle alliance napoleon is there.

2. Write an essay of ten or fifteen lines upon the subject—"Love of Country."

3. Give an analysis of the following sentence:

"Like as a father pitieth his children, so the Lord pitieth them that fear him."

4. Give the plurals of the following: *mouse*, *man*, *baby*, *valley*, x, *datum*, *church*, *genus*, *index*, *negro*.

Decline *I*, *woman*, *William*; compare *good*, *perfect*, *evil*; give the principal parts of *lie* (to recline), *see*.

6. Correct the errors in the following sentence:

I seen the boy raise up quick and seize the man who the blame was lain on.

7. Write the following poetry in your own words in prose:

"He that is down, needs fear no fall;
He that is low, no pride;
He that is humble, ever shall
Have God to be his guide.
I am content with what I have,
Little be it, or much;
And, Lord, contentment still I crave,
Because thou savest such."

8. What is a modifier? How many kinds? Give an example of each.

9. How does a complex sentence differ from a compound sentence? Illustrate by examples.

10. What parts of speech have comparison? Declension? Inflection?

II. IN ALGEBRA.

1. Give the rule for signs in Multiplication.

2. Multiply $3x^2-2xy-2y^2$ by $2x^2+3xy-4y^2$.

3. Divide $6x^4+13ax^3-13a^3x-5a^4$ by $2x^2-a^2-3ax$.

4. Multiply $1-\frac{a-b}{a+b}$ by $2+\frac{2b}{a-b}$.

5. Divide $\frac{7a^3b^{\frac{4}{5}}x^{\frac{1}{3}}}{11\,m\,n^{\frac{2}{3}}y^{\frac{3}{7}}}$ by $11\,m^3n^{\frac{2}{3}}x^{\frac{4}{7}}y^{\frac{1}{3}}$.

6. Add $\sqrt{50}$ and $\sqrt{98}$. Also $\sqrt{\frac{3}{4}}$ and $\sqrt{\frac{1}{3}}$.

7. Extract the Square Root of $b^4+24a^3b+10a^2b^2-8ab^3+9a^4$.

8. Given $\left\{\begin{array}{l} \frac{1}{2}x+\frac{1}{3}y+\frac{1}{4}z=62 \\ \frac{1}{3}x+\frac{1}{4}y+\frac{1}{5}z=47 \\ \frac{1}{4}x+\frac{1}{5}y+\frac{1}{6}z=38 \end{array}\right\}$ to find x, y and z.

9. If $a:b::c:d$ prove that $a+b:a-b::c+d:c-d$.

10. Given $2\sqrt{x}+\sqrt[2]{x}=5$: Find x.

QUESTIONS IN ARITHMETIC.

1. $3\frac{3}{4}+6\frac{7}{11}-2\frac{4}{5}+8\frac{3}{7}=$ what?

2. Divide $\frac{4\frac{3}{4}}{2\frac{2}{3}}$ by $\frac{2\frac{7}{8}}{3\frac{4}{5}}$

3. Divide 3.723 by .0469.

4. Find the true discount on \$456.25 due in 2 y. 3 m. 18 ds., money being worth 7% per annum.

5. If I give my note at bank for \$500, payable in 90 days from date, what sum shall I receive, the note being discounted at 8% per annum?

6. Sold a horse for \$90, which was 10% less than the cost; I invested the amount received in sugar at $6\frac{1}{4}$ cts. per pound, and sold it for 7cts. per pound. Did I gain or lose on the whole transaction, and how much?

7. Find the square root of $\frac{75}{243}$.

. Find the cube roof of 110592.

9. How many acres in a rectangular field 120 meters long and 86 meters wide?

10. Find the greatest common divisor of 152 and 336. Also, the least common multiple of 1081, 3335 and 4991.

UNITED STATES HISTORY.

1. Describe briefly the aborigines of Northern, Central and Southern North America.

2. What period in United States History, between 1492 and 1607? Three important events during that period.

3. Give three remote and three immediate causes of the American Revolution.

4. What was the "Declaration of Independence"? When made? Where? By what body? Who wrote it?

5. How did Indiana become a part of the United States? Kansas? California?

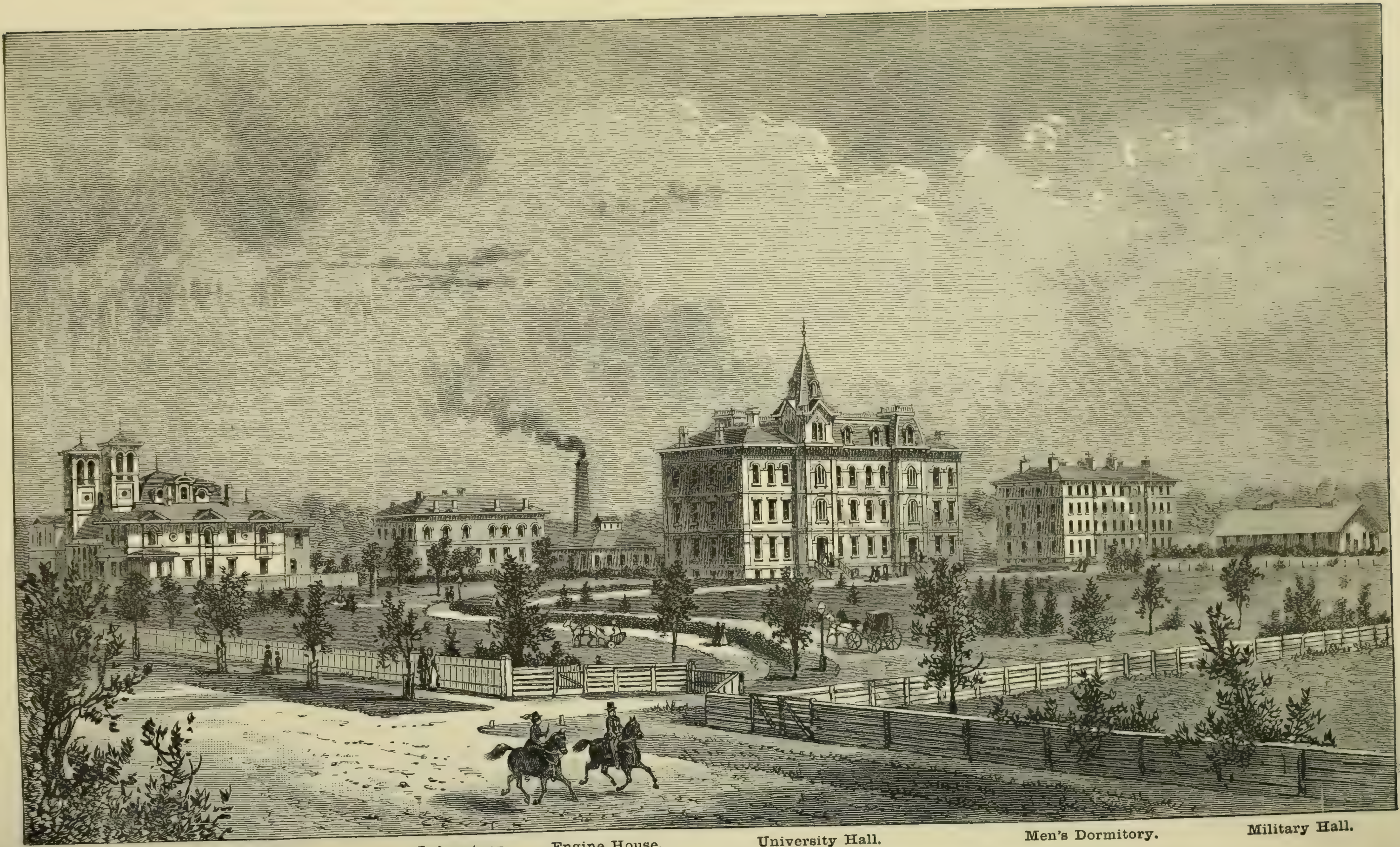
6. Time, cause, results, of the Nullification Movement.

7. Of what States were the following Presidents natives: (a) Buchanan, (b) Jackson, (c) Taylor, (d) Garfield, (e) Lincoln, (f) Jefferson, (g) Adams?

8. What great questions were at stake in the Civil War?

9. Give a brief account of the annexation of Texas.

10. State, briefly, who the following men were: (a) Samuel Adams, (b) Thos. Jefferson, (c) Jno. C. Calhoun, (d) Jno. Brown, (e) Chas. Sumner.


Boarding House.
Industrial Art Hall.
Ladies' Hall.
Laboratory.
Mechanics' Shop.
Engine House.
University Hall.
Men's Dormitory.
Military Hall.

PURDUE UNIVERSITY, LAFAYETTE, IND.

THE

ANNUAL REGISTER

OF

PURDUE UNIVERSITY.

LAFAYETTE, IND.

1885-86.

INDIANAPOLIS:
WM. B. BURFORD, PRINTER AND BINDER.
1886.

FACULTY.

JAMES H. SMART, LL.D.,
President.

LANGDON S. THOMPSON, A. M.,
Professor of Industrial Art.

*CHARLES R. BARNES, A. M.,
Professor of Botany and Geology.

EDWARD E. SMITH, A. B., B. S.,
Professor of English and History, and Secretary of Faculty.

WILLIAM F. M. GOSS,
Professor of Practical Mechanics.

MOSES C. STEVENS, A. M.,
Professor of Mathematics.

WILLIAM C. LATTA, M. S.,
Professor of Agriculture, and Farm Superintendent.

ALBERT W. STAHL, M. E.,
Assistant Engineer U. S. Navy,
Professor of Mechanical Engineering and Director of Testing Laboratory.

ROBERT B. WARDER, A. M., B. S.,
Professor of Chemistry, and State Chemist.

OSCAR J. CRAIG, A. M.,
Professor of Political Economy, and Principal of Preparatory Department.

FLORA E. WEED,
Instructor Preparatory Class, and Matron of Ladies' Hall.

HENRY L. OSBORN, A. B., Ph. D.,
Professor of Zoology.

JAMES TROOP, M. S.,
Professor of Horticulture and Entomology.

HENRY A. HUSTON, A. M., A. C.,
Professor of Physics, and Superintendent State Weather Service.

JOHN N. HURTY, M. D.,
Professor of Pharmacy.

F. M. WEBSTER,
U. S. Bureau of Entomology, Economic Entomology.

RICHARD B. WETHERELL, M. D.,
Professor of Materia Medica and Toxicology.

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*Out on leave of absence.

PURDUE UNIVERSITY.

FACULTY FOR 1886-7.

JAMES H. SMART, LL. D.,
President.

LANGDON S. THOMPSON, A. M.,
Professor of Industrial Art.

CHARLES R. BARNES, A. M., Ph. D.,
Professor of Botany and Geology.

WILLIAM F. M. GOSS,
Professor of Practical Mechanics.

MOSES C. STEVENS, A. M.,
Professor of Mathematics.

WILLIAM C. LATTA, M. S.,
Professor of Agriculture and Farm Superintendent.

ALBERT W. STAHL, M. E.,
Assistant Engineer U. S. Navy.
Professor of Mechanical Engineering and Director of Testing Laboratory.

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Professor of Chemistry, and State Chemist.

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Professor of Political Economy, and Principal of Preparatory Department.

HENRY L. OSBORN, A. B., Ph. D.,
Professor of Zoology.

JAMES TROOP, M. S.
Professor of Horticulture and Entomology.

HENRY A. HUSTON, A. M., A. C.,
Professor of Physics, and Superintendent State Weather Service.

MELVILLE B. ANDERSON, A. M.,
Professor of Literature and History.

MRS. SARAH F. FLETCHER,
Lady Principal, and Instructor in English.

ARTHUR L. GREEN, Ph. C.,
Professor of Pharmacy.

JOHN N. HURTY, M. D.,
Special Lecturer in Pharmacy.

RICHARD B. WETHERELL, M. D.,
Special Lecturer in Materia Medica.

F. M. WEBSTER,
U. S. Bureau of Entomology, Economic Entomology.

AUGUSTA N. JONES,
Instructor in French and German.

BERTHA A. REYNOLDS,
Instructor in Literature and Elocution.

RICHARD W. SWAN, A. M.,
Librarian and Registrar.

ASSISTANTS.

MICHAEL GOLDEN,
Assistant in Wood Shop and Foundry.

HENRY A. HUSTON, A. M., A. C.,
Assistant State Chemist.

WILLIAM P. TURNER,
Assistant in Forging and Machine Work.

EMPLOYES.

LOUIS BIANCHI,
Engineer and Superintendent of Buildings.

PIERRE VAN LANDEGHEM,
Florist and Gardener.

PATRICK TRACEY,
Janitor.

AUGUSTA N. JONES,
Instructor in French and German.

ARTHUR L. GREEN, Ph. C.,
Special Lecturer in Pharmacy and Chemistry.

JENNIE M. WHIPPLE,
Instructor in Elocution.

RICHARD W. SWAN, A. M.,
Librarian and Registrar.

ASSISTANTS.

MICHAEL GOLDEN,
Assistant in Wood Shop and Foundry.

HENRY A. HUSTON, A. M., A. C.,
Assistant State Chemist.

BENJAMIN H. BORRESON,
Assistant in Machine and Forge Rooms.

LURA LOUISE THOMPSON,
Assistant in Wood Carving.

ELIZABETH SHOEMAKER,
Assistant in Botany.

EMPLOYES.

LOUIS BIANCHI,
Engineer and Superintendent of Buildings.

*ROBERT G. ELLIOTT,
Florist and Gardener.

†PIERRE VAN LANDEGHEM,
Florist and Gardener.

††WILLIAM O. FRITZ, B. S.,
Foreman of Experimental Farm.

PATRICK TRACEY.
Janitor.

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*To November 1, 1885. †From November 1' 1885. ††To December 1.

SUNDAY CHAPEL LECTURES.

1886-87.

Sept.	12.	Rev. A. Marine	Lafayette.
"	19.	Judge James B. Black	Indianapolis.
"	26.	Gov. W. H. Calkins	Indianapolis.
Oct.	3.	John H. Holliday, Esq.	Indianapolis.
"	10.	Louis Howland, Esq.	Indianapolis.
"	17.	Hon. W. D. Foulke	Richmond.
"	24.	Hon. U. Z. Wiley	Fowler.
"	31.	Prof. H. A. Gobin	DePauw Univ'y.
Nov.	7.	Hon. D. P. Baldwin	Logansport.
"	14.	Prof. W. W. Grant	Ind'lis High Sch'l
"	21.	President W. T. Stott	Franklin College.
Dec.	5.	May Wright Sewall	Indianapolis.
"	12.	Rev. O. E. Palmer	Lafayette.
"	19.	Hon. B. K. Higinbotham	Frankfort.
Jan.	9.	Rev. Alexander Blackburn	Lafayette.
"	16.	A. L. Mason, Esq.	Indianapolis.
"	23.	Rev. R. S. Martin	Chauncey.
"	30.	Rev. Edward Barr	Lafayette.
Feb.	6.	Prof. A. B. Milford	Wabash College.
"	13.	Rev. W. M. Pettis	Lafayette.
"	20.	Rev. W. P. Kane	Lafayette.
"	27.	President D. S. Jordan	State University.
Mch.	6.	Rev. J. M. Kendall	Lafayette.
"	13.	Prof. J. L. Campbell	Wabash College.
"	20.	Rev. W. M. Bell	Lafayette.
"	27.	Rev. F. M. Pavey	Lafayette.
April	3.	Ella Lyon Swift	Indianapolis.
"	10.	Rev. J. H. Claypool	Lafayette.
"	17.	Prof. D. W. Dennis	Earlham College.
"	24.	Judge John A. Holman	Indianapolis.
May	1.	Rev. B. Wilson Smith	Lafayette.
"	8.	Dr. A. W. Brayton	Indianapolis.
"	15.	Theodore L. Sewall	Ind'lis Class'l Sc'l
"	22.	E. W. Halford, Esq.	Ind'lis Journal.
"	29.	Emma Mont McRae	Marion.
June	5.	Baccalaureate Address	

*STUDENTS.

COLLEGE.

POST-GRADUATES.

William Arthur Fankboner,	S	Marion.
Elizabeth Shoemaker,	S	Chauncey.
Ella May Stockton,	S	Chauncey.

SENIOR CLASS.

Anna Embree Baker	I	Stockwell.
Bessie Baker.	S	Stockwell.
James Franklin Bruff	M	Lafayette.
Ernest Vernon Claypool.	S	Chauncey.
Orloff Field Dragoo.	S	Macedonia.
Maude Richmond Henderson	S	Lafayette.
Arthur Lionel King	M	Avilla.
Scott Mead	M	Patriot.
Shrewsbury Beauregard Miller.	M	Charleston, W. Va.
Mary Florence Murdock	I	†Wea.
Morgan Gorrell Quick	S	Columbus.
Edward Newton Reser	I.	Wea.
George Wilkinson Ross	I.	Raub.
Joseph Swearingen	M	Blountsville.
Mary Margaret VanNatta	S	Fowler.
Samuel Turner Virden	A	Monticello.

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*Students in the School of Science are designated by S; in the School of Agriculture and Horticulture by A; in the School of Mechanics and Engineering by M; and the School of Industrial Art by I.

† The postoffice address of residents of Wea is Lafayette.

JUNIOR CLASS.

George Ade	S	Kentland.
William Brady	S	Lafayette.
Harry Thomas Cory	M	Chauncey.
George William Hart	M	Aurora.
Mary Kate Hollingsworth	I	Wea.
James Allen Lilly	M	Patton.
Flora Fannie Roberts	I	Chauncey.
Charles Austin Stafford	S	Millville.
Bennett Taylor	M	Lafayette.
Kate Wentz	I	Chauncey.

SOPHOMORE CLASS.

Mary Catherine Barr	I	Lafayette.
Lemuel Stearns Boggs	M	Chauncey.
Moses Taylor Boggs	S	Chauncey.
Henry Luke Bolley	S	Holman.
Jessie Born	I	Lafayette.
James Sidney Boyd	M	Rushville.
Frank Webster Brady	M	Wellsburg, W. Va.
Arthur Goss	A	Vincennes.
Ben Looker Harvey	S	Lafayette.
Harry Land	M	Richmond.
Ransom Tedrow Lewis	M	Indianapolis.
William James Lutz	S	Wea.
Joseph Franklin McBeth	M	Wea.
Charles Milton Mock	M	Rushville.
John O'Gara	M	Lafayette.
William Henry Olds	M	Fort Wayne.
Philip Thurber Potter	M	Lafayette.
Frank Lewis Rainey	S	Lafayette.
Sadie Raub	I	Chauncey.
James C. Ross	I	Raub.
Augustus Ruffner	M	Charleston, W. Va.
Carrie Ernestine Shoemaker	S	Lafayette.
James Samuel Shortle	S	Goldsmith.
William Taylor Thayer, Jr	M	Charleston, W. Va.
Ella Wallace	I	Lafayette.
Sallie Wallace	I	Lafayette.
John Jenkins Wilmore	M	Trenton.

FRESHMAN CLASS.

Anna Pencelia Anderson	I	Wea.
William Nathaniel Banks	S	Door Village.
Wilbur Newton Bever	M	Newtown.
Elmer James Bittle	M	Whitlock.
Archibald Warnock Blair	M	Princeton.
Ella Kellogg Brady	I	Lafayette.
Oakley Bright	M	Rainsville.
Brown Brockenbrough	M	Lafayette.
May Brooks	S	Shoals.
Albert Marshal Brosius	M	Gallipolis, Ohio.
Samuel Glenn Brosius	M	Gallipolis, Ohio.
Almon Levi Brown	S	Edna Mills.
John Breckenridge Burris	S	Cloverdale.
Clarence Limes Cory	M	Chauncey.
Clifford Crowell	M	Portland.
Charles Luther Davidson	M	Hazelton.
Louis Edgar Davis	A	Azalia.
Lewis Henry Davis	A	Dalton.
Jessie Dinsmore	I	Kirkville, Iowa.
Barney Harman Dorner	S	Frankfort.
Jasper Dresser	S	Lafayette.
Melville William Earl	S	Wea.
Albert Eccles	M	Greenwood.
Charles Francis Enyart	A	Walton.
George Gregg Floyd	M	St. Paul.
Nellie Floyd	I	St. Paul.
Charles Groat Foresman	M	Lafayette.
John Philip Foresman	M	Lafayette.
Noah Fouts	A	Deer Creek.
Arvel Herkless	A	Knightstown.
Brooks Lonson Hine	A	Sedan.
Melville Laubach Horn	M	Lafayette.
Ella Huthsteiner	I	Tell City.
Oliver Morton Jones	A	Rob Roy.
Carl Von Kimball	S	Marion.
Frank Eugene King	M	Avilla.
Charles Louis Latta	M	Odell, Neb.

Emerson James Leslie	M	Winchester.
Morris Levistein	M	Spencer.
Dumont Lotz	S	Portland.
Abram McClamrock	A	Frankfort.
Charles Allen McCorkle	A	Shawnee Mound.
John William McCorkle	A	Shawnee Mound.
Benjamin Franklin McCoy	A	Monroe City.
John Tinney McCutcheon	I	Lafayette.
Fannie Georgiana McGrath	I	Lafayette.
Charles Edward Middleton	M	Madison.
Franc Blackmore Parker	M	Lafayette.
Nimmo Forest Pettis	M	Lafayette.
Frank Lewis Petty	M	Frankfort.
Harry Everett Pierce	M	Pine Village.
Charles Warner Pifer	M	Lafayette.
Cora Gertrude Read	I	Chauncey.
Charles Remster	S	Veedersburg.
Albert Rogers	I	Lafayette.
Daniel Royse	M	Chauncey.
Samuel Nourse Saltmarsh	A	Sunman.
Richard Benbridge Sample	I	Lafayette.
Wilbur Stevenson Sample	M	Lafayette.
John Frederick Schnaible	M	Lafayette.
George Harvey Searcy	S	Patriot.
Jacob Warne Sholl	M	Hobart.
Abraham Lincoln Smith	S	Avilla.
Robert Bangs Stearns	M	Madison.
Albert Stewart	M	Mitchell.
William Leon Stumph	M	Indianapolis.
Henry Andrew Taylor	M	Chauncey.
James Richard Thayer	M	Charleston, W. Va.
Alvin J. Thomas	A	Marion.
Annie Thornton	I	Chauncey.
Robert Bee Wallace	M	Lafayette.
Alva Courtney Washburn	M	Lafayette.
Alonzo Weaver	M	Odell.
William Heath Wells	M	Lafayette.
Fanny Olive Westfall	I	Montmorenci.
May Blanche VanNatta	I	Battle Ground.

IRREGULAR AND SPECIAL STUDENTS.

Fred. Demann . . . . Vevay.

Wood-carving, Decorative Design, Shop-work and Mechanical Drawing.

Mrs. Mattie Giddings . . . . Danville, Ill.

Wood-carving.

Carrie Gould . . . . Rochester.

English Literature, Logic, Trigonometry, Physics and German.

Charles S. Grove . . . . Lafayette.

Wood-carving and Decorative Design.

Lucius Jackson . . . . Lafayette.

Chemistry.

Retta Johnson. . . . . Lafayette.

Industrial Art.

William Makemson. . . . . Pierceton.

Agriculture, Botany and Zoology.

George Eben Moseley . . . . Peru.

Agriculture, Botany and Zoology.

Oscar Ulysses Mutz . . . . Edinburg.

Agriculture, Horticulture, Literature, Elocution, Zoology, Geology and Shop-work.

Abraham Lincoln O'Dell . . . . Attica.

Agriculture, Industrial Art.

Grace Taylor . . . . Lafayette.

Wood-carving.

John Tracey. . . . . Chauncey.

Freshman, Shop-work and Mechanical Drawing.

Frederic Edward Weigand. . . . . Lafayette.

Logic and English Literature.

SCHOOL OF PHARMACY.

SENIOR CLASS.

Ernest G. Eberhardt	Indianapolis.
Manuel Jay	Lafayette.
John Kennedy	Worthington.
Edwin J. Mowry	Roanoke.
Louis H. Schulmeyer	Indianapolis.
Bert D. Westenfelder	La Porte.
Emory James Yeager	Lafayette.

JUNIOR CLASS.

Millard Caldwell	Thorntown.
W. Hurtley Dickinson	Spiceland.
William D. Jackson	Indianapolis.
Clinton L. LaRue	Mt. Carmel.
Edwin R. McIlwain	Connersville.
William M. Ross	Richmond.

PREPARATORY CLASS.

REGULAR.

Ruth Barr	Lafayette.
Laura Frances Beeker	Battle Ground.
Rosetta Ann Beeker	Battle Ground.
Nellie Berkey	Lafayette.
Frances May Bittle	Whitlock.
Lucretia Lawrence Boggs	Lafayette.
Isaac Born	Lafayette.
Charles Newton Branch	Anderson.
Abraham Lincoln Bryan	Battle Ground.
William Butterworth	La Porte.
Joseph Cochran Callahan	Lafayette.
John Benjamin Carnell	Deer Creek.
Julia Eloise Carter	Lafayette.
James Chancellor	Kentland.
Nellie Kinsley Claypool	Lafayette.

Frank Whitney Coats	Veedersburg.
Stella Belle Coddington	Lafayette.
Edward Everett Cox	Peru.
Nannie Cox	Romney.
Bertha Gertrude Crouse	Lafayette.
Ellwood Cubberly	Andrews.
Jacob Burton Cunningham	Lafayette.
Kate Dasher	Delphi.
Emmett Davis	Cartersburg.
Schuyler Colfax Davisson	Galveston.
Laura Belle Davisson	Galveston.
William Robert Deardorf	Lafayette.
Edgar Morton Dillman	Waynesburg.
William Arthur Dresser	Lafayette.
Ella Driscoll	Conroe.
George Grant Dyer	Brookston.
Eugene Ezra Ennis	Battle Ground.
Eva Lavina Ennis	Battle Ground.
Charles Oscar Fankboner	Marion.
Alvin Fickle	Mulberry.
Tryphena Fickle	Mulberry.
Mettie Vance Fidler	Culver.
Addie Mercella Finch	Templeton.
William Clinton Fitzer	Montez.
Mary Jennie Haller	Lafayette.
John Hanley	Lafayette.
Henry Herschel Harris	Boswell.
Nina Blanche Hart	Boonville.
Oscar Henn	Perkinsville.
Ellen Hilemon	Lafayette.
Etta Lucia Hilliard	Larwill.
Lillian Howard	Lafayette.
Spencer John Hunt	Elston.
David Augustus Hurley	Lafayette.
Virginia Elizabeth Hussey	Lafayette.
Clarence Fletcher Jamison	Lafayette.
Thomas Jones	Brazil.
Hiram Jones	Rob Roy.
Lulu Maude Jones	Lafayette.

James Nelson Kirkpatrick	Culvers.
Perry Culver Kirtley	Chase.
Harry Joseph Knight	Lafayette.
Richard Kumler	Lafayette.
James Henry Little	Lowell
Isaac Anderson Loeb	Anderson.
Tillie Cyril Magovern	Lafayette.
Samuel Clifford Malsbary	Romney.
Chancellor Marks	Lafayette.
Albert Martin	Lafayette.
Charles Elton McClure	Newtown.
George Jones McClure	Whitlock.
Ina Mary McClure	Newtown.
Mary Eliza McCutcheon	Lafayette.
George John McGrath	Lafayette.
Ambrose McLaughlin	Lafayette.
Alfred Holland McMullen	Lafayette.
Frank Gardener Meloy	North Vernon.
Dana Ward Moore	Lafayette.
John Eli Moore	Coesse.
Mattie Moore	Lafayette.
Cora Morehouse	Octagon.
John Louis Nalley	Battle Ground.
Matie Ellen Nelson	Odell.
Jennie Elizabeth Newton	Lafayette.
John Washington Nicely	Dayton.
Julia O'Gara	Lafayette.
Wilbur Logan Pavey	Lafayette.
Oliver Morton Payton	Wheeling.
William John Ransdell	Franklin.
Mary Ruth Raub	South Raub.
Henrietta Raub	South Raub.
John Baker Ray	Lafayette.
Helen Eugenie Read	Lafayette.
Charles Russ Richards	Clark's Hill.
Jonathan Greene Richardson	Big Spring.
Reuben Armstrong Robinson	Burton.
Charles Ross	Lafayette.
Mollie Ross	Lafayette.

Boys Taylor Sample	Lafayette.
Mary Sedletzky	Tell City.
Bertha Elizabeth Sexton	Lafayette.
Harry William Sheehan	Lafayette.
Margaret Della Singley	Lafayette.
Emma Luella Skinner	Stockwell.
Effie Maude Somerville	Lafayette.
Arthur Eugene Statton	Battle Ground.
Clement Voorhees Stwalley	Poland.
Henry Swank	Pettit.
Mary Ellen Tracey	Lafayette.
Estes Curtis Vankirk	Monroe City.
George William Verbarg	North Vernon.
Savella Washburne	Lafayette.
Letitia Welch	Lafayette.
Lottie May Wheeler	Smithson.
Lulu Whistler	Monitor.
John Marshall Whitsel	Octagon.
Myra Whitsel	Octagon.
Allen VanNeiss Wilson	Irvington.
Allen Windle	Farmers' Institute.
Aaron Yost	Pettit.
Robert Ellsworth Zinn	Fowler.

IRREGULAR.

Jennie Akers	Pine Village.
Ida May Anson	Lafayette.
Hattie Atkinson	Pine Village.
Minnie Baker	Lafayette.
George Bales Breedlove	Mooresville.
Nannie Elizabeth Brown	Lafayette.
George Jay Burroughs	Lafayette.
Alice Campbell	Battle Ground.
Judson Alpha Carter	Dayton.
Roslindia Davisson	Octagon.
Burson Gideon DeHart	Lafayette.
Eugene Edgar Earhart	Lafayette.
William Field	West Point.

Emma Ford	Lafayette.
Alice Ford	Lafayette.
Lonnie Guion	Lafayette.
Louis Nelson Hampton	Richmond.
Edward Haworth	Kokomo.
Anna Maria Higgins	Lafayette.
William Hilemon	Lafayette.
Lizzie Johnson	Lafayette.
Laura Klinger	Brookston.
Minnie McClure	Whitlock.
Schuyler Marks	Lafayette.
Ada Jane Martin	South Raub.
William Alfred Mills	Big Spring.
James Delvin Myers	Lovely Dale.
William Howard Newby	Mooresville.
Harry Patterson	Thorntown.
Carrie Picken	Glen Hall.
Jennie Picken	Glen Hall.
Lula Rhode	Rainsville.
Mary Alice Rowe	Otterbein.
Richard Addison Smart	Lafayette.
David Snyder	Monroe City.
Clay Soper	Danville.
Media Storms	Stockwell.
Frank Tuller	Terre Haute.
David Martin Vankirk	Monroe City.
John Marion Westfall	Burton.
Addie Virginia Wood	Battle Ground.

SUMMARY.

COLLEGE.		
Post-Graduates	3	
Seniors	16	
Juniors	10	
Sophomores	27	
Freshmen	76	
Irregular and Special	14	
School of Pharmacy	13	
		159
PREPARATORY CLASS.		
Regular	116	
Irregular	40	
		156
Total		315

COUNTIES REPRESENTED.

Names of counties represented by one or more students:

Allen,
Bartholomew,
Benton,
Boone,
Carroll,
Cass,
Clay,
Clinton,
Dearborn,
Decatur,
Delaware,
DeKalb,
Fayette,
Fountain,
Franklin,
Fulton,
Gibson,
Grant,
Greene,
Hendricks,
Henry,
Howard,
Huntington,
Jay,
Jefferson,
Jennings,
Johnson,
Kosciusko,
Knox,
Lake,
LaPorte,
Lawrence,
Madison,
Marion,
Martin,
Miami,
Montgomery,
Monroe,
Morgan,
Newton,
Noble,
Owen,
Perry,
Putnam,
Randolph,
Ripley,
Rush,
Switzerland,
Tippecanoe,
Tipton,
Vigo,
Warren,
Warrick,
Wayne,
White,
Whitley.

Total, 56.

MILITARY DEPARTMENT.

PURDUE CADETS.

OFFICERS.

Captain	G. W. Ross.
1st Lieutenant	R. T. Lewis.
2d Lieutenant	S. T. Virden.
1st Sergeant	J. C. Ross.
2d Sergeant	O. U. Mutz.
3d Sergeant	W. S. Sample.
1st Corporal	S. M. Saltmarsh.
2d Corporal	W. Lutz.
3d Corporal	
4th Corporal	

PRIVATES.

W. N. Banks,
A. W. Blair,
M. T. Boggs,
W. Brady,
A. M. Brosius,
J. B. Burris,
E. V. Claypool,
E. E. Cox,
C. L. Davidson,
W. R. Deardorf,
B. G. De Hart,
F. E. Demann,
J. H. Dillman,
G. G. Dyar,
A. C. Eccles,
C. O. Fankboner,
C. G. Foresman,
Lonnie Guion,
B. F. Hine,
S. J. Hunt,
C. V. Kimball.
E. J. Leslie,
M. Levistein,
J. H. Little,
I. A. Loeb,
G. J. McClure,
C. E. Middleton,
D. W. Moore,
A. L. Odell,
H. E. Pierce,
W. J. Ransdell,
R. B. Sample,
J. M. Sholl,
R. B. Stearns,
J. Swearingen,
H. A. Taylor,
A. J. Thomas,
R. B. Wallace,
A. C. Washburn,
T. F. Weaver,
A. V. Wilson.

ALUMNI.

1875.

John Bradford Harper, B. S.; Indianapolis.

1876.

Charles John Bohrer, B. S.; A. C., 1877; Denver, Col.

1877.

Franklin Pierce Clark, B. S.; A. C., 1878; North Baltimore, O.
William King Eldridge, B. S.; C. E., 1878; Indianapolis.

1878.

Jesse Harvey Blair, B. S.; LL. B., Indianapolis Law School, 1883; Lebanon.
Eulora Miller, B. S.; Lafayette.
Daniel William Noble, B. S.; Indianapolis.
John Crothers Vannatta, B. S.; Kentland.

1879.

Nettie Derexa Morey, B. S.; Chicago, Ill.
Guilford Lawson Spencer, B. S.; A. C.; M. S., Michigan University, 1882; Washington, D. C.

1880.

James Nelson Bartholomew, B. S.; M. D., Medical College of Ohio, 1882; San Alamos, Cal.
Margaret Jane Erisman, B. S.; Lafayette.
Annie Henderson, B. S.; Lafayette.
Carrie Henderson, B. S.; Lafayette.
Lewis Owens, B. S.; Chalmers; died March, 1881.
Worth Reed, B. S.; Chauncey.
Lilian Gray Smith, B. S.; Lafayette.

1881.

Mamie Emma Fraser, B. S.; Peoria, Ill.
John Martin McBroom, B. S.; Hillsboro.
William Buchanan Sinclair, B. S.; San Pierre.
Eva Wilson Smith, B. S.; Lafayette.
Jessie Florence Thompson, B. S.; Lafayette.
Albert King Warren, B. S.; Lebanon.
Thomas Perkins Weir, B. S.; Kansas City, Mo.
William Emerson White, B. S.; Cincinnati, O.

1882.

Philip Doddridge Alexander, B. S.; Mount Vernon.
Henry Abraham Beck, B. S.; Indianapolis.
Maggie Janet Chapman, B. S.; Topeka, Kan.
William Edgar Driscoll, B. S.; M. D., Medical College of Ohio, 1886; Cowan.
Elwood Mead, B. S.; C. E.; Lafayette.
Walter Henry Peters, B. S.; A. C.; M. D., Medical College of Ohio, 1886; Lafayette.
Edward Ewing Sickler, B. S.; Indianapolis.
Edward Sabin White, B. S.; Lafayette.
Henry Augustus Huston, A. C.; A. M., Bowdoin College, 1879; Lafayette.
Charles A. Crampton, A. C.; Ph. C., Michigan University, 1882; New Orleans, La.

1883.

Kate Luvenia Bishop, B. S.; Peru.
Frank Vincent Broadbent, B. S.; M. S., Michigan University, 1884; Washington, D. C.
Carrie Avanelle Cory, B. S.; Chauncey.
Elroy A. Dillon, B. S.; Chicago, Ill.
Anna Laura Foster, B. S.; Otterbein.
Charles Haskel Henderson, B. S.; Lafayette.
Harry G. Lutz, B. S.; Wea.
Walter Stevens Ratliff, B. S.; Richmond.
Otis S. Roberts, B. S.; Oxford.
Ida Virginia Smith, B. S.; Lafayette.
Lura Louise Thompson, B. S.; Lafayette.
George King Throckmorton, B. S.; Lafayette.

James Milo Waugh, B. S.; Crawfordsville.
Emory Calvin White, B. S.; Albion.
William Edward White, B. S.; Oxford.

1884.

Charles Denman Keys, B. S.; Peru.
Fanny Bennett Lutz, B. S.; Wea.
Flora Jane Lutz, B. S.; Wea.
S. A. D. S. Lyons, B. S.; Boundary City.
George Washington McCoy, B. S.; Vincennes.
Albert Brown Porter, B. S.; Richmond.
Walter J. Quick, B. S.; Columbus.
Harry Elisha Rank, B. S.; Chauncey.
Elizabeth Shoemaker, B. S.; Chauncey.
Hattie Schutz VanNatta, B. S.; Fowler.

1885.

Perry Davis Creager, B. S.; Portland.
William Arthur Fankboner, B. S.; Marion.
Eli K. Hoober, B. S.; Springport.
Effie Jane Lutz, B. S.; Wea.
J. D. Moor, B. S.; Elizabethtown.
Alfred Nelson, B. S.; White Rock, Minn.; died March, 1886.
Charles L. Ratliff, M. E.; Spiceland.
Ella May Stockton, B. S.; Lafayette.
Marshall Thatcher, B. S.; Scircleville.
Howard Vanderbilt, B. S.; Lafayette.
Henry Heath Vinton, B. S.; Lafayette.

COURSES OF STUDY.

Purdue University is a college of Science, Agriculture, and Mechanic Arts. It embraces five special schools and a Preparatory Class, as follows:

I. School of Agriculture and Horticulture.
II. School of Mechanics and Engineering.
III. School of Science.
IV. School of Industrial Art.
V. School of Pharmacy.
VI. Preparatory Class.

The courses of instruction in the first four special schools are so arranged that they include, with few exceptions, the same instruction in general science, mathematics, English, history, political and mental science, and industrial drawing. In addition to these branches common to the four schools, the School of Agriculture adds four years of instruction and practice in agriculture and horticulture; the School of Mechanics and Engineering, two years of instruction and practice in practical mechanics, and two years of mechanical engineering; the School of Science, four years in laboratory work, in the natural and physical sciences; and the School of Industrial Art, four years of instruction and training in industrial art.

Students in each of these schools are now required to engage in an average of two hours daily of *hand work*, including laboratory practice, shop work, field work, etc. The School of Pharmacy affords instruction in chemistry, pharmacy, materia medica, botany, etc., with a large amount of laboratory practice for two years, of five months each.

While the Preparatory Class offers a thorough drill in the common English branches, which is quite complete in itself, it is designed to prepare students to enter either of the first four schools of the University.

The courses of study are given on the following pages. The figures indicate the number of exercises per week.

NOTE.—All selections for electives must be made under advice of the Faculty. No new classes will be formed of less than three students.

SCHOOL OF AGRICULTURE.

FRESHMAN YEAR.

HOURS.	8 A. M. TO 9 A. M.	9:30 A. M. TO 10:30 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 2:30 P. M.	2:30 P. M. TO 3:30 P. M.
1st Term. 15 w.	Farm Stock (11 w.) 5 Farm Crops (4 w.) 5	Model Drawing in Outline. 5	Rhetoric. 4 Elocution. 1	Geometry. 5		
2d Term. 12 w.	Farm Crops (4 w.) 5 Stock Breeding (8 w.) 5	Linear Perspective. 5	Rhetoric. 4 Elocution. 1	Geometry. 5		
3d Term. 11 w.	Shop Work. 5		Rhetoric. 3 Stock Breeding. 2	Algebra. 5	Botany. 5	

SOPHOMORE YEAR.

HOURS.	8 A. M. TO 9 A. M.	9:30 A. M. TO 10:30 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 2:30 P. M.	2:30 P. M. TO 3:30 P. M.
1st Term. 15 w.	English Literature. 5	Higher Algebra (12 w.) 5 Trigonometry (3w.) 5	†Farm Management (7 w.) 2½	Physics. 4	†Farm Implements (8 w.) 2½ †Botany. 2½	
2d Term. 12 w.	Eng. Literature (4 w.) 5 History (8 w.) 3 Hist. Lecture (8 w.) 1 Elocution (8 w.) 1	Trigonometry. 5	†Farm Management. 2½	Physics. 4	†Botany (4 w.) 2½ †Zoölogy (8 w.) 2½	
3d Term. 11 w.	History. 3 Historical Lecture. 1 Elocution. 1	Surveying. 5	†Vegetable Gardening. 2½	Physics. 4	†Zoölogy. 2½	

†Alternate days.

JUNIOR YEAR.

1st Term. 15 w.	‖Farm Drainage (7 w.) 5 Fruit Culture (8 w.) 5	*Elective. 4	Chemistry. 5	Chemistry. 3	Elective. 4
2d Term. 12 w.	Economic Botany. 5	Elective. 4	Chemistry. 5	Chemistry. 3	Elective. 4
3d Term. 11 w.	‖Economic Entomology. 5	Elective. 4	Agricultural Chemistry. 5	Agricultural Chemistry. 3	Elective. 4

‖ With occasional field work.

*Juniors must choose work to occupy the time marked *elective* from the following subjects: Botany, Zoölogy, Physics, Shop-work, History (first half year), Logic (second half year).

SENIOR YEAR.

1st Term. 15 w.	**Elective. 5	Elective. 4	Human Physiology. 5	Veterinary Hygiene. 4	
2d Term. 12 w.	Elective. 5	Elective. 4	Human Physiology (4 w.) 5 Geology (8 w.) 5	Principles of Agriculture, Feeding and Dairying. 4	
3d Term. 11 w.	Elective. 5	Elective. 4	Geology. 5	Landscape Gardening and Forestry. 4	Landscape Gardening and Forestry. 2

**Seniors must choose work to occupy the time marked *elective* from the following subjects: Botany, Zoölogy, Chemistry, Literature, German, Psychology (first half year), Political Economy (second half year).

SCHOOL OF MECHANICS AND ENGINEERING.

FRESHMAN YEAR.

HOURS.	8 A. M. TO 9 A. M.	9:30 A. M. TO 10:30 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M. OR 3:30 P. M. TO 5:30 P. M.
1st Term. 15 w.	Wood-working Tools. } Elements of Construction. } 3 Mechanical Drawing. 2	Model Drawing in Outline. 5	Rhetoric. 4 Elocution. 1	Geometry. 5	Bench Work in Wood. } Wood Turning. } 5
2d Term. 12 w.	Theory of Pattern Making. } Hand Tools for Metal. } 3 Mechanical Drawing. 2	Mechanical Drawing. 2	Rhetoric. 4 Elocution. 1	Geometry. 5	Pattern Making. 3 Molding and Casting. 1 Vise Work in Iron. 1
3d Term. 11 w.	Mechanical Drawing. 5	Mechanical Drawing. 5	Rhetoric. 3	Algebra. 5	Pattern Making. 3 Molding and Casting. 1 Vise Work in Iron. 1

SOPHOMORE YEAR.

1st Term. 15 w.	English Literature. 5	Higher Algebra (12 w.) 5 Trigonometry (3 w.) 5	Mechanical Drawing. 5	Physics. 4	Iron and Steel Forging. 5
2d Term. 12 w.	Eng. Literature (4 w.) 5 History (8 w.) 3	Trigonometry. 5	Theory of Machine Work. 2 Mechanical Drawing. 3	Physics. 4	Machine Work. 5
3d Term. 11 w.	History. 3	Surveying. 5	Machines and Machine Work. 2 Mechanical Drawing. 3	Physics. 4	Machine Work. 5

JUNIOR YEAR.

1st Term. 15 w.	Analytical Geometry. 5	Descriptive Geometry (7 w.) 4 Principles of Mechanism (8 w.) 4 Heat. 1	Chemistry. 5	Chemistry. 3	Descriptive Geometry (7 w.) 4 Mechanical Drawing (8 w.) 4 Heat. 1
2d Term. 12 w.	An. Geometry (5 w.) 5 Calculus (7 w.) 5	Principles of Mechanism. 4 Heat. 1	Chemistry. 5	Chemistry. 3	Mechanical Drawing. 4 Heat. 1
3d Term. 11 w.	Calculus. 5	Analytical Mechanics. 2 Metallurgy. 2 Heat. 1	Metallurgical Chemistry. 5	Metallurgical Chemistry. 3	Mechanical Drawing. 4 Heat. 1

SENIOR YEAR.

1st Term. 15 w.		*Elective. 4	Steam Boilers. 3 Elective. 2	Analytical Mechanics. 5	Strength of Materials. 2 Machine Design and Experimental Work in Engineering. 3
2d Term. 12 w.	Political Economy (8 w.) 5	Elective. 4	An. Mechanics (4 w.) 3 Elective. 2	Steam Engine. 5	Machine Design and Experimental Work in Engineering. 5
3d Term. 11 w.	Political Economy. 5	Elective. 4	Hydraulics. 2 Elective. 2	Machinery and Mill-Work. 3	Machine Design and Experimental Work in Engineering. 5

*Seniors must elect one of the following: Applied Electricity, General Literature, or German.

SCHOOL OF SCIENCE.

FRESHMAN YEAR.

HOURS.	8 A. M. TO 9 A. M.	9:30 A. M. TO 10:30 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 2:30 P. M.	2:30 P. M. TO 3:30 P. M.
1st Term. 15 w.		Model Drawing in Outline. 5	Rhetoric. 4 Elocution. 1	Geometry. 5	French or German. 5	
2d Term. 12 w.		Linear Perspective. 5	Rhetoric. 4 Elocution. 1	Geometry. 5	French or German. 5	
3d Term. 11 w.		Orthographic Projection. 5	Rhetoric. 3 French or German. 2	Algebra. 5	Botany. 5	

SOPHOMORE YEAR.

1st Term. 15 w.	English Literature. 5	Higher Algebra (12 w.) 5 Trigonometry (3 w.) 5	French or German. 2½	Physics. 4	Botany. 2½	
2d Term. 12 w.	English Literature (4 w.) 5 History (8 w.) 3 Historical Lectures (8 w.) 1 Elocution (8 w.) 1	Trigonometry.	French or German. 2½	Physics. 4	Botany (4 w.) Zoölogy (8 w.) 2½	
3d Term. 11 w.	History. 3 Historical Lectures. 1 Elocution. 1	Surveying.	French or German. 2½	Physics. 4	Zoölogy. 2½	

JUNIOR YEAR.

1st Term. 15 w.	Analytical Geometry. 5	*Elective. 4	Chemistry. 5	Chemistry. 3	Elective. 4
2d Term. 12 w.	Analytical Geometry (5 w.) 5 Calculus (7 w.), or Literature (7 w.) 5	Elective. 4	Chemistry. 3	Chemistry. 3	Elective. 4
3d Term. 11 w.	Calculus or Literature. 5	Elective. 4	Applied Chemistry. 5	Applied Chemistry. 3	Elective. 4

*Juniors must elect two of the following, viz.: 1. History and Logic. 2. Physics. 3. Botany. 4. Zoölogy.

SENIOR YEAR.

1st Term. 15 w.	Psychology. 5	*Elective. 4	Human Physiology. 5	Elective. 4
2d Term. 12 w.	Psychology (4 w.) 5 Political Economy (8 w.)	Elective. 4	Human Physiology (4 w.) 5 5 Geology (8 w.) 5	Elective. 4
3d Term. 11 w.	Political Economy. 5	Elective. 4	Geology.	Elective. 4

*Seniors must elect two of the following, viz.: 1. Physics. 2. Chemistry. 3. Botany. 4. Zoölogy. 5. Literature.

SCHOOL OF INDUSTRIAL ART.

FRESHMAN YEAR.

HOURS.	8 A. M. to 9 A. M.	9:30 A. M. to 10:30 A. M.	10:30 A. M. to 11:30 A. M.	11:30 A. M. to 12:30 P. M.	1:30 P. M. to 2:30 P. M.	2:30 P. M. to 3:30 P. M.
1st Term. 15 w.		Model Drawing in Outline. 5	Rhetoric. 4 Elocution. 1	Geometry. 5	French or German. 5	
2d Term. 12 w.		Linear Perspective. 5	Rhetoric. 4 Elocution. 1	Geometry. 5	French or German. 5	
3d Term. 11 w.		Orthographic Projection. 5	Rhetoric. 3 French or German. 2	Algebra. 5	Light and Shade. 5	

SOPHOMORE YEAR.

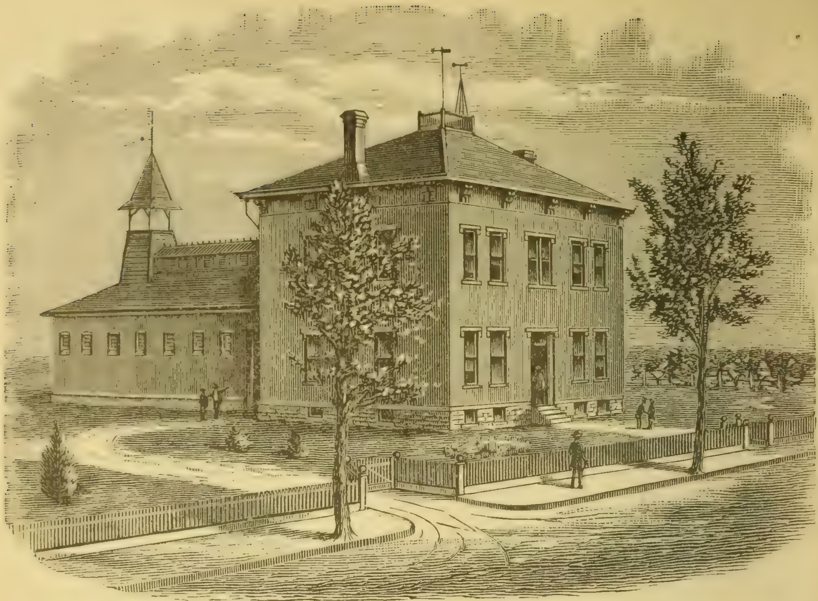
HOURS.	8 A. M. to 9 A. M.	9:30 A. M. to 10:30 A. M.	10:30 A. M. to 11:30 A. M.	11:30 A. M. to 12:30 P. M.	1:30 P. M. to 2:30 P. M.	2:30 P. M. to 3:30 P. M.
1st Term. 15 w.	English Literature. 5	Higher Algebra (12 w). 5 Trigonometry (3 w). 5	German or French. 2½	Physics. 4	Light and Shade. 2½	
2d Term. 12 w.	Eng. Lit. (4 w.) 5 History (8 w.) 3 Hist. Lec. (8 w.) 1 Elocution (8 w.) 1	Trigonometry. 5	German or French. 2½	Physics. 4	Color. 2½	
3d Term. 11 w.	History. 3 Historical Lecture. 1 Elocution. 1	Surveying. 5	German or French. 2½	Physics. 4	Color. 2½	

JUNIOR YEAR.

1st Term. 15 w.	Analytical Geometry. 5	History. 4	Chemistry. 5	Chemistry. 3	Wood Carving or Clay Modeling. 5
2d Term. 12 w.	Anal. Geometry (5 w.) 5 Calculus or Literature (7 w.) 5	History (4 w.) 4 Logic (8 w.) 4	Chemistry. 5	Chemistry. 3	Wood Carving or Clay Modeling. 5
3d Term. 11 w.	Calculus or Literature. 5	Logic. 4	Applied Chemistry. 5	Applied Chemistry. 3	Wood Carving or Clay Modeling. 5

SENIOR YEAR.

1st Term. 15 w.	Psychology. 5		Literature.	Human Physiology. 5	Decorative Design. 4
2d Term. 12 w.	Psychology (4 w.) 5 Political Economy (8 w.) 5		Literature.	Human Physiology (4 w.) 5 Geology (8 w.) 5	Decorative Design. 4
3d Term. 11 w.	Political Economy. 5		Literature.	Geology. 5	Decorative Design. 4



AGRICULTURAL HALL.

SCHOOL OF AGRICULTURE.

The course of study in this school is designed to prepare young men for agricultural pursuits. The purpose is not to make farmers and fruit growers merely, but intelligent citizens as well. Hence, a wide range of instruction is afforded in both general and special subjects. Those subjects which relate more directly to agriculture are sufficiently outlined below to indicate the nature and scope of the instruction given.

As far as possible the special subjects are taken up at the most favorable time of the year, and in their proper relation to the purely scientific studies. The class-room instruction is supplemented by field and shop work.

The course of study is as follows:

FRESHMAN YEAR.

AGRICULTURE.—Twenty-seven weeks, five hours per week; and eleven weeks, two hours per week. **Farm Stock.**—History and characteristics of the various improved breeds of domestic animals, with their adaptations to soil, climate and the various purposes of the breeder. **Farm Crops.**—Staple and special; planting, cultivating, and harvesting; feeding and selling; reasons for change of crops; crop rotations adapted to the different soils and climatic conditions. **Stock Breeding.**—Principles underlying the art; laws of heredity; relation of cross-breeding and in-breeding to constitutional vigor, prepotency, etc.; means of improving our domestic animals.

INSTRUCTOR, *Prof. Latta.*

BOTANY.—Eleven weeks, ten hours per week. See Botany, page 49.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 62.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 62.

RHETORIC.—Twenty-seven weeks, four hours per week; and eleven weeks, three hours per week. See English and History, page 60.

ELOCUTION.—Twenty-seven weeks, one hour per week.

DRAWING.—Twenty-seven weeks, five hours per week. First fifteen weeks, **Model Drawing in Outline,** and last twelve weeks, **Linear Perspective.** See Industrial Art, page 56.

SHOP WORK.—Eleven weeks, ten hours per week. See Shop Work (a), page 38.

SOPHOMORE YEAR.

AGRICULTURE.—Eight weeks, ten hours per week; and nineteen weeks, two and one-half hours per week. **Farm Implements.**—Study of their mechanism, strength, and durability, with practice in taking them apart, putting them together, and adjusting them for use. **Farm Management.**—Various questions relating to the care of crops, stock, manures, buildings, fences, implements, etc.; permanent improvements; farm accounts; buying and selling.

INSTRUCTOR, *Prof. Latta.*

HORTICULTURE.—Eleven weeks, two and one-half hours per week. **Vegetable Gardening.**—Preparation of soil, planting, transplanting, cultivation, harvesting, marketing and winter preservation.

INSTRUCTOR, *Prof. Troop.*

BOTANY.—Nineteen weeks, five hours per week. See Botany, page 49.

ZOOLOGY.—Nineteen weeks, five hours per week. Lectures on **Mammalian Anatomy** with demonstration from dissected specimens to illustrate the structure and uses of the various organs as a preparation for the intelligent study of the principles and practice of veterinary hygiene.

INSTRUCTOR, *Prof. Osborn.*

PHYSICS.—Thirty-eight weeks, four hours per week. See Physics, page 50.

ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 63.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 63.

SURVEYING.—Eleven weeks, five hours per week. See Mathematics, page 63.

ENGLISH LITERATURE.—Nineteen weeks, five hours per week. See English and History, page 60.

HISTORY.—Nineteen weeks, three hours per week. See English and History, page 60.

HISTORICAL LECTURE.—Nineteen weeks, one hour per week.

ELOCUTION.—Nineteen weeks, one hour per week.

JUNIOR YEAR.

REQUIRED.

AGRICULTURE.—Seven weeks, five hours per week. **Farm Drainage.**—Location, planning, leveling, construction and repairing of farm drains; sanitary drainage of farm buildings; road drainage.

INSTRUCTOR, *Prof. Latta.*

HORTICULTURE.—Twenty weeks, five hours per week. **Fruit Culture.**—Budding, grafting, layering and pruning; care and cultivation of fruit trees and vines; harvesting, packing, storing and marketing of fruits; orchard sites, etc. **Economic Botany.**—Study of noxious and useful plants of the farm, their characteristics propagation, rate of increase and conditions of growth; time and manner of destroying weeds, etc.

INSTRUCTOR, *Prof. Troop.*

ECONOMIC ENTOMOLOGY.—Eleven weeks, five hours per week. Study of beneficial and injurious insects; means of preventing or mitigating insect ravages.

INSTRUCTOR, *Prof. Troop.*

CHEMISTRY.—General Chemistry, twenty-seven weeks, eight hours per week; and Agricultural Chemistry, eleven weeks, eight hours per week. See Chemistry, page 51.

ELECTIVE.

Botany, Zoölogy, Physics, Shop Work, History (first half year), Logic (second half year), Literature (second half year).

SENIOR YEAR.

REQUIRED.

AGRICULTURE.—Twenty-seven weeks, five hours per week. **Veterinary Hygiene.**—Symptoms, causes, preventives and treatment of diseases of farm stock; sanitary arrangement of farm buildings; disinfection. **Principles of Agriculture.**—Effects of tillage, manures, mulching, drainage, irrigation; nature and needs of soils and crops; soil exhaustion, renovation of soils, etc. **Principles of Feeding and Dairying.**—Laws of animal nutrition; feeding, rations for young, fattening, working and dairy animals; effects of dry, succulent, concentrated and bulky foods; economy in feeding; effects of food, exposure and treatment on the quantity and quality of milk; milk setting, butter and cheese making; utilization of the by-products of the dairy.

INSTRUCTORS, *Profs. Troop and Latta.*

HORTICULTURE.—Eight weeks, five hours per week. **Landscape Gardening.**—Laying out and ornamentation of grounds with trees, shrubs, flowers, lawns, etc. **Forestry.**—Effects of forests upon climate; reasons for forest-tree planting; trees for various locations and methods of growing the same.

INSTRUCTOR, *Prof. Troop.*

HUMAN PHYSIOLOGY.—Nineteen weeks, five hours per week. See Human Physiology, page 53.

GEOLOGY.—Sixteen weeks, five hours per week. See Geology, page 53.

ELECTIVE.

Botany, Zoölogy, Chemistry, Literature, German, Psychology (first half year), Political Economy (second half year).

MEANS OF ILLUSTRATION.

The college campus, greenhouse, nursery, orchard, experiment farm, and meteorological station afford facilities for practically illustrating the class-room instruction. The experimental grounds contain many varieties of grapes and small fruits, grains and grasses, which furnish ample means for observation and training in those branches especially adapted to the farmer and fruit grower.

The improved breeds of cattle on the College Farm, and in the vicinity of Lafayette, afford good opportunity for illustrating the class-room instruction on Live Stock and Stock Breeding. Occasional excursions are made to visit herds in this neighborhood. As far as practicable, labor will be furnished to students taking the Agricultural Course, whenever it is desired. Students receive pay for all work not instructional.

SCHOOL OF MECHANICS AND ENGINEERING.

The instruction in this school, during the first two years, is arranged to give special prominence to shop work and the studies pertaining thereto; the second two years are more particularly devoted to the theory and practice of mechanical engineering.

The work of the first two years is arranged to respond to the present strong and growing demand for young men who understand practical mechanical construction, who are skilled in the use of tools, and who by their education possess a high order of directive power. It adds to work of a general character instruction and practice in those underlying principles of the common trades, which when taken together form a basis for all lines of special mechanical work.

While the technical work of the Freshman and Sophomore years is thus more especially intended to give young men skill in the practical manipulation of tools and in actual machine construction, that of the Junior and Senior years is designed to give them such additional and advanced training that they may become, not merely constructors, but also inventors and designers, of machinery.

The course of instruction is as follows:

FRESHMAN YEAR.

TECHNICAL INSTRUCTION.—Twenty-seven weeks, three hours per week. Under this head are comprised:

(a) *Lectures* developing the character of cutting edges for wood, the adjustment of different tools and the methods by which they are kept in order; also lectures on the shrinkage and warping of woods; different forms, adaptation, and relative strength of joints; framing, bracing, paneling, and elementary stair building.

(b) *Lectures* on wood-working machines, including rotary and traverse planers; circular, scroll and band saws; and lathes and lathe attachments.

(c) *Lectures* on pattern-making, molding and casting.

(d) *Lectures* on hand-tools for metal.

INSTRUCTOR, *Prof. Goss.*

MECHANICAL DRAWING.—Fifteen weeks, seven hours per week; twelve weeks, four hours per week; and eleven weeks, ten hours per week.

(a) *Model drawing in outline*, see Industrial Art page 56.

(b) *Sketching* from parts of various wood-working tools and of work to be done in the shop.

(c) *Drawings* for built-up pulley patterns, pipe bends, laggings, sweeps, patterns for sectional molding, and for other work of like character that may be done in the shop.

(d) *Drawings from copy* of the details of machines.

INSTRUCTOR, *Prof. Goss.*

SHOP-WORK.—Thirty-eight weeks, ten hours per week.

(a) *Exercises* in planing, sawing, rabbeting, ploughing, notching, splicing, mortising, tenoning, dovetailing, framing, paneling, and in other work involving the common carpenter tools.

(b) *Exercises* in circular sawing, scroll sawing and turning.

(c) *Exercises* in pattern-making, including patterns and core boxes for pulleys, gears, columns, and pipe joints; complete sets of patterns for one or more machines are made by every class.

(d) *Exercises* in core-making, mold-making and casting; also in the management of cupola furnace and crucible furnace in melting iron and brass.

INSTRUCTOR, *Mr. Golden.*

(e) *Exercises* in vise work in iron, including surface chipping, key seating, surface filing, squaring and fitting, round filing, sawing, scraping and polishing.

INSTRUCTOR, *Mr. Borreson.*

RHETORIC.—Twenty-seven weeks, four hours per week; and eleven weeks, three hours per week. See English and History, page 60.

ELOCUTION.—Twenty-seven weeks, one hour per week.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 62.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 62.

SOPHOMORE YEAR.

TECHNICAL INSTRUCTION.—Twenty-three weeks, two hours per week.

(a) *Lectures* on the management of steel in forging, hardening, tempering and annealing.

(b) *Lectures* on machines and machine work.

INSTRUCTOR, *Prof. Goss.*

MECHANICAL DRAWING.—Fifteen weeks, five hours per week; twelve weeks, three hours per week; and eleven weeks, four hours per week.

(a) *Drawings* to scale from parts of actual machines.

(b) *Ink shading and tinting.* The representation of flat and curved surfaces by ink tints, and of engineering materials by colors.

INSTRUCTOR, *Prof. Goss.*

SHOP WORK.—Thirty-eight weeks, ten hours per week.

(a) *Iron forging*, including exercises in heating, bending, drawing, upsetting, welding, annealing and case-hardening. About forty forgings are made, representing a large variety of operations.

(b) *Steel forging*, including the making and tempering of punches, drills, chisels, machine cutting tools, gravers and springs.

(c) *Machine work* in metals, including exercises in turning, planing, slotting, drilling, boring, fluting, etc., This practice is given in the construction of complete machines and appliances.

INSTRUCTOR, *Mr. Borreson.*

ENGLISH LITERATURE.—Nineteen weeks, five hours per week. See English and History, page 60.

HISTORY.—Nineteen weeks, three hours per week. See English and History, page 60.

PHYSICS.—Thirty-eight weeks, four hours per week. See Physics, page 50.

HIGHER ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 63.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 63.

SURVEYING.—Eleven weeks, five hours per week. See Mathematics, page 63.

JUNIOR YEAR.

DESCRIPTIVE GEOMETRY.—Seven weeks, twelve hours per week. Instruction and practice in the methods of representing, by drawings, all geometrical magnitudes and the solution of problems relating to these magnitudes in space. This subject, including the principles of shades, shadows and perspective, is taught by lecture, the time allotted being equally divided between instruction in the class-room and the practical solution of original problems in the drawing-room.

INSTRUCTOR, *Prof. Stahl.*

PRINCIPLES OF MECHANISM.—Twenty weeks, four hours per week. Under this head are studied the principles underlying the action of the elementary combinations of which all machines are composed. The communication of motion by gear-wheels, belts, cams, screws and link-work, the various means of producing definite changes of velocity, the different automatic feed motions, epicyclic trains, parallel motions, the principles of quick return movements, and the manner of designing trains of mechanism for various purposes, all form part of this subject.

INSTRUCTOR, *Prof. Stahl.*

MECHANICAL DRAWING.—Eight weeks, eight hours per week; and twenty-three weeks, eight hours per week. The work in mechanical drawing is directly supplemental to the instruction in Principles of Mechanism.

The work includes drawings of epicycloidal and involute gear-wheels, drawings of pin gearing, bevel gearing, lobed wheels, cams, endless screws, and other elementary combinations. These drawings are not in any sense copies, being made by each student to correspond with data furnished him by the instructor. During the spring term each student makes complete working drawings of some existing machine, obtaining for himself all necessary data by direct measurement from the machine.

INSTRUCTOR, *Prof. Stahl.*

METALLURGY.—Eleven weeks, two hours per week. The various fuels and refractory materials are first taken up, and their special fitness for different metallurgical operations is pointed out. The characteristics, composition and location of the principal iron ores are next examined, after which all the various operations in the manufacture and refining of iron and steel are explained in detail, according to the most modern practice. See also Metallurgical Chemistry, page 52. INSTRUCTOR, *Prof. Stahl.*

CHEMISTRY.—General Chemistry, twenty-seven weeks, eight hours per week; and Metallurgical Chemistry, eleven weeks, eight hours per week. See Chemistry, page 52.

HEAT.—Thirty-eight weeks, three hours per week. Nature and effects of heat, temperature, measurement of heat, expansion, liquefaction, evaporation, latent heat, specific heat, conduction, convection, radiation, relation between heat and mechanical energy, principles of thermo-dynamics. The instruction will be given partly in the class-room and partly by experimental work in the Physical Laboratory. INSTRUCTOR, *Prof. Huston.*

ANALYTICAL GEOMETRY.—Twenty weeks, five hours per week. See Mathematics, page 63.

CALCULUS.—Eighteen weeks, five hours per week. See Mathematics, page 63.

ANALYTICAL MECHANICS.—Eleven weeks, two hours per week. The work in this subject consists of mathematical investigations concerning the action of forces on solids, liquids and gases. During this term the time is devoted to the acquisition of the fundamental principles concerning forces, their nature, their effect, and the methods of measuring them and of representing them graphically. Among the subjects discussed are the composition and resolution of forces, the determination of the center of gravity, the principle of moments, and the conditions of equilibrium of a solid body.

INSTRUCTOR, *Prof. Stahl.*

SENIOR YEAR.

ANALYTICAL MECHANICS.—Fifteen weeks, five hours per week; and four weeks, three hours per week.

The work in this branch is continued by the study of the mathematical principles underlying the action of the elementary machines, the lever, cord, inclined plane, pulley, wheel and axle, screw, and wedge, including the effect of friction in each case.

The various phenomena of free and constrained motion are next considered, and the simple and compound pendulums, center of percussion, theory of projectiles, moment of inertia, centripetal and centrifugal forces, are among the subjects discussed. The conditions and circumstances of equilibrium and motion of liquids and gases are next taken up, and the work ends with the study of the various hydraulic and pneumatic machines in common use.

INSTRUCTOR, *Prof. Stahl.*

STRENGTH OF MATERIALS.—Fifteen weeks, four hours per week. This subject includes the study of the strength, elasticity, and other physical properties of the various materials of construction, such as stone, wood, cast and wrought iron, steel, copper, brass, etc. Students acquire this information partly from text books, but principally from actual experiments made by themselves with the powerful testing machine belonging to the Testing Laboratory. The proper forms for greatest strength under given conditions, as well as the laws governing deflection and elasticity, are deduced by theoretical investigation and verified by practical experiment.

INSTRUCTOR, *Prof. Stahl.*

BOILERS.—Fifteen weeks, three hours per week. The various modern forms of steam boilers are carefully studied, noting their advantages and disadvantages, and the methods employed in their construction. The number and size of tubes and flues, the thickness of plates, strength of different styles of riveting, kinds of bracing, amount of grate and heating surface, different kinds of steam and water gauges, safety valves and injectors; the causes of and methods of preventing foaming, incrustation and corrosion, the manner of setting boilers and of operating them with safety and economy, are all studied in detail. Each student participates in at least one complete boiler test, determining the evaporative power and economy of combustion of fuel of one or more boilers, under given conditions.

INSTRUCTOR, *Prof. Stahl*

STEAM ENGINE.—Twelve weeks, five hours per week. The work begins with the study of the general theory of the steam engine and of its efficiency as a prime mover, including discussions of the laws of thermo-dynamics, the expansion of steam, jacketing, cushioning, action of fly-wheels, effect of clearance, effect of condensation in cylinder, and other similar subjects. The relative advantages of simple and compound, condensing and non-condensing engines, the principal types of modern engines, the various valve and cut-off motions, the method of determining the size of an engine to do any required work, and of calculating the sizes of all its parts, are all explained. Special attention is given to the steam engine indicator, and the student becomes thoroughly familiar with its use and the manner of interpreting its indications. Each student participates in a number of complete engine tests, determining the efficiency of a given engine under specified conditions.

HYDRAULICS.—Eight weeks, two hours per week. In this branch are studied the mechanism and action of the principal steam and hand pumps, the working of water wheels and turbines, flow of water through pipes and sluices, and, in general, the utilization of water power.

INSTRUCTOR, *Prof. Stahl.*

MACHINERY AND MILL-WORK.—Eight weeks, three hours per week. This time is devoted to the calculation of the sizes of parts of machinery, to the manner of arranging shops, the means of transmitting power over both short and long distances, and to the solution of some of the miscellaneous problems constantly arising before the mechanical engineer.

INSTRUCTOR, *Prof. Stahl.*

MACHINE DESIGN AND EXPERIMENTAL WORK IN ENGINEERING.—Fifteen weeks, six hours per week, and twenty-three weeks, ten hours per week. Throughout the senior year students devote two hours daily to practical work in the drawing-room and in the testing laboratory. They make drawings of peculiar and complicated machinery; they also prepare original designs for machines for given purposes. They take part in all the experimental work done by the testing laboratory, including the determination of the efficiency of boilers, steam engines and pumps, the relative value of coals, the strength of the materials of construction, and other subjects of importance to the mechanical engineer.

INSTRUCTOR, *Prof. Stah .*

POLITICAL ECONOMY.—Sixteen weeks, five hours per week. See Political and Intellectual Science, page 65.

ELECTIVE WORK.—In addition to the foregoing studies, students must select one of the following:

(a) **APPLIED ELECTRICITY.**—Thirty-five weeks, six hours per week. The work in this subject includes systematic laboratory instruction in the setting up and care of the various forms of fluid, thermo- and secondary batteries, in the use of galvanometers, resistance coils, condensers, etc., in the measurement of resistance of conductors and batteries, insulation of cables, electro-motive force, etc., in the construction and testing of electro-magnets, and in the applications of electricity to industrial purposes.

Special attention is given to the magnitude of electrical units and their relation to the mechanical units. Instruments of the latest and best forms are provided for this work.

INSTRUCTOR, *Prof. Huston.*

(b) **GERMAN.**—Thirty-five weeks, five hours per week.

(c) **GENERAL LITERATURE.**—Thirty-five weeks, one exercise per week. See English and History, page 61.

VISITS OF INSPECTION.

During the senior year students make visits of inspection, in charge of an instructor, to the prominent manufacturing establishments of Chicago, Indianapolis and other cities. The character of these visits is shown by the following list of places visited in and near Chicago in November, 1885.

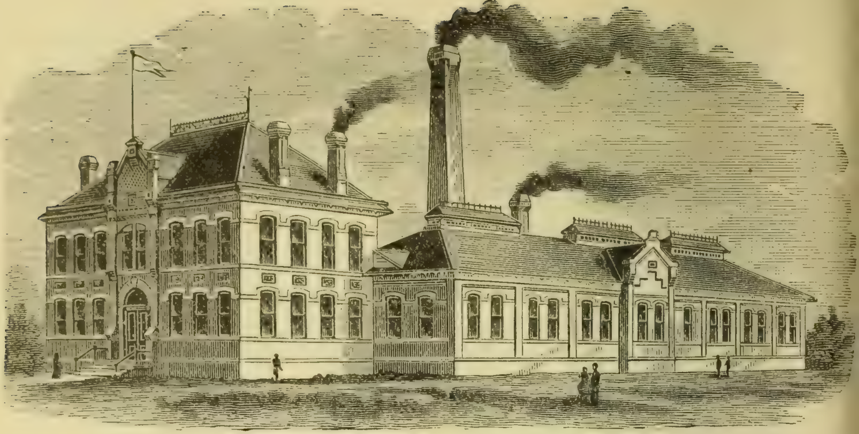
South Chicago rolling mills and Bessemer steel works, Fowler spike mill, Pullman car works, Blatchford's lead pipe and oil works, Crane's pipe mill, Western Electric Company's works, Cook & Rathbone's planing mill, Schuttler's wagon factory, Central Station of Cable Car system, Chicago Manual Training School.

While making these trips students are usually granted special rates, both on railroads and at hotels. The thanks of the students, as well as of the University, are due to the proprietors and managers of these establishments, for their kindness and courtesy during these visits. Such trips are of inestimable value to the students, affording them an opportunity of seeing in actual practice those processes of manufacture, whose theory they have already studied in the class-room.

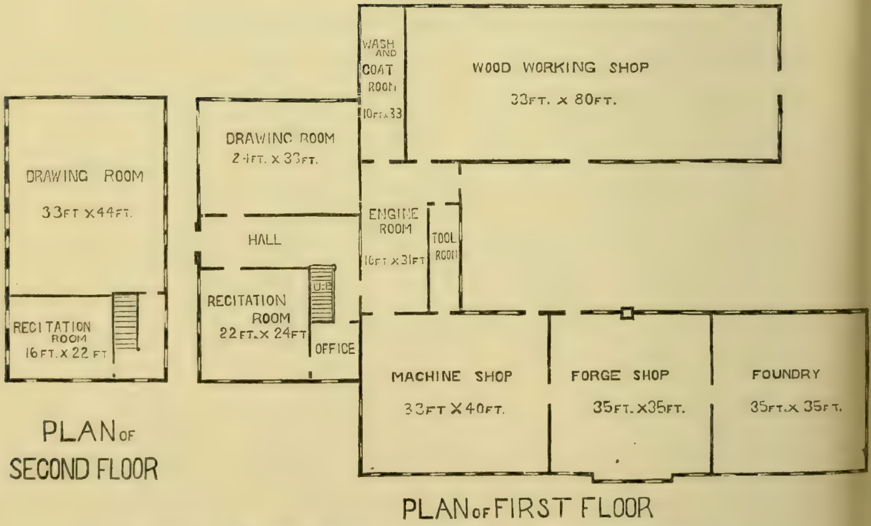
GRADUATING THESES.

As a condition of graduation, students in the School of Mechanics and Engineering are required to present a thesis on some approved subject. Such theses must be original compositions of suitable length, on some subject of interest to the mechanical engineer. The subjects are so selected as to necessitate original work, either of investigation or of experiment, on the part of the student. The subjects at present under preparation by members of the Senior Class are: "Bessemer Steel: Its History and Practical Manufacture;" "Steam Engine Indicators: the Various Forms in Use and Their Applications;" "Methods of Testing Steam Boilers, Including the Result of an Experimental Determination of the Efficiency of a Pair of Steam Boilers;" "The Stones and Quarries of Indiana, Including Experimental Determination of Their Physical Properties;" "Windmills: Their History and Present Forms, Including Experiments in Determining Their Efficiency."

The originals of theses are bound and preserved in the University Library.



MECHANICAL LABORATORY.



PLAN OF SECOND FLOOR

PLAN OF FIRST FLOOR

PLANS OF MECHANICAL LABORATORY.

MECHANICAL LABORATORY.

The Mechanical Laboratory is wholly occupied by the School of Mechanics and Engineering. It contains nearly eleven thousand square feet of available floor surface, and is admirably adapted to the uses for which it was planned.

The main portion of the building is occupied by two recitation rooms, two drawing rooms, and an office. The drawing rooms are furnished with tables, drawing-boards, and T squares for each student. There is also provided, for general use, a supply of the more expensive drawing instruments, such as proportional dividers, protractors, beam compasses, etc., and a large number of rubber curves.

In the wings of the building are a wood-working room, a foundry, a forge room, and a machine room; and connected with these, an engine room, a tool room and a coat room. The wood-working room contains twenty benches, with full sets of bench tools for wood, eleven lathes for turning, a grindstone, a circular saw and a scroll saw. The foundry is equipped with a cupola furnace for iron, a crucible furnace for brass, a core oven, and a full supply of sand, flasks and molders' tools. The forge room contains twelve forges, to which air blast is supplied by power, twelve anvils, and twelve sets of the usual smithing tools. The machine room contains two screw-cutting machine lathes of sixteen-inch swing, four of fourteen-inch swing, and one of ten-inch swing; also a machine planer, a shaper, a universal milling machine, a grindstone, two vertical drilling machines, a speed lathe, and an emery grinder. These machines are provided with all the necessary small tools, cutters, etc., necessary to their complete and economic action. In the machine room are benches, fitted with vises for use in connection with hand-work in metal.

The motive power for the shops is supplied by an automatic cut-off engine of thirty-five horse-power.

TESTING LABORATORY.

In order to still further improve the practical side of the course of instruction, as well as to provide facilities for the scientific investigation of many commercial questions, a Mechanical

Testing and Experimental Laboratory has been organized in connection with the Department of Mechanical Engineering.

The work done by the Laboratory includes the determination of the strength and other physical properties of the materials of construction, the testing of steam boilers by hydraulic pressure, examination and correction of steam gauges, determination of the evaporative power and economy of combustion of fuel of steam boilers, and of the efficiency and amount of fuel consumed per horse-power of steam engines. The Laboratory also determines the relative value of coals for steaming purposes, conducts competitive tests of rival engines, boilers, or other machinery, and is prepared to make experimental determinations in other matters of interest to the engineering profession.

Students perform work in the Testing Laboratory as part of the regular course in strength of materials, boilers, steam engines and hydraulics, and assist in all commercial and experimental work done by the Laboratory.

The Laboratory is provided with a powerful machine for testing the strength and elasticity of materials. The machine can exert any strain up to 50,000 pounds, and can subject the specimen to tension, compression or transverse strain. In addition, the Laboratory possesses a steam gauge tester, steam engine indicator, planimeter and other necessary appliances, and has the use of the thoroughly equipped shops of the University.

DONATIONS.

The School of Mechanics and Engineering takes pleasure in acknowledging the receipt of the following donations: Blake Steam Pump Co., Boston, Mass., a No. 1½ steam pump; B. F. Sturtevant, Boston, Mass., a No. 3 pressure blower; Atlas Engine Works, Indianapolis, Ind., a balanced slide valve; Western Electric Co., Chicago, Ill., samples of electric cables; American Steam Gauge Co., Boston, Mass., a finely-finished steam gauge; Brown & Sharpe Manufacturing Co., Providence, R. I., a copy of "Universal Milling Machines" and "Grinding Machines;" Otto Gas Engine Co., Chicago, Ill., three framed photographs of Otto Gas Engine; Babcock & Willcox, New York City, two framed engravings of Babcock & Willcox steam boilers; American Society of Mechanical Engineers, complete set of transactions of the society.

SCHOOL OF SCIENCE.

The especial object of the School of Science is to give a thorough training in biological, chemical and physical science. It combines with this as much literary, mathematical and philosophical work as possible.

A larger number of Electives has been introduced than has heretofore been allowed.

This arrangement gives the Juniors and Seniors in the School of Science the option of four different courses of study, in each of which one of the following subjects may engage the greater part of the student's time, viz:

1. Biology.
2. Chemistry.
3. Physics and Mathematics.
4. Literature and History.

FRESHMAN YEAR.

BOTANY.—Eleven weeks, ten hours per week. This elementary and general course consists of instruction by lectures and laboratory work in the gross anatomy and morphology of various types of flowering plants. In the last few weeks, instruction in systematic botany is given by laboratory and field work in naming and classifying some of the common spring flowers.

DRAWING.—Thirty-eight weeks, five hours per week. See Industrial Art, page 56.

RHETORIC.—Thirty-eight weeks, four hours per week. See English and History, page 60.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 62.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 62.

ELOCUTION.—Twenty-seven weeks, one hour per week.

FRENCH OR GERMAN.—Twenty-seven weeks, five hours per week, and eleven weeks, two hours per week. See Modern Languages, page 63.

SOPHOMORE YEAR.

PHYSICS.—Thirty-eight weeks, four hours per week. During the first term the properties of matter and the subject of dynamics are studied. The second term is devoted to the subjects of heat and electricity; and the third, to the subjects of sound and light. Instruction is given by lectures illustrated by qualitative experiments and recitations supplemented by quantitative laboratory work.

INSTRUCTOR, *Prof. Huston.*

BOTANY.—Nineteen weeks, five hours per week. The instruction in Botany comprises—

1. *Laboratory work*, in which students will investigate for themselves the structure of a series of plants illustrating various types, beginning with the simple and proceeding to the more complex. Each student prepares and mounts thin sections and dissections for examination with the compound microscope. Ink drawings of dissections are required.

2. *Lectures* and *quizzes* at such times as seem most opportune. The lectures are intended to supplement the laboratory work by pointing out the bearing of the facts observed upon the relationships of the plants and their life history.

. *References* to standard books for private reading. The chief object of this course is to train the student in methods and habits of accurate observation. Such incidental instruction and information will be embodied in the lectures and reference-readings, as seem suitable.

INSTRUCTOR, *Prof. Barnes.*

ZOOLOGY.—Nineteen weeks, five hours per week. An elementary course designed to furnish such general knowledge of the facts of Zoölogy as every educated person should possess; also to impart at the same time some training in laboratory study. The instruction will be given by lectures supplemented by demonstrations and laboratory practice. It will require the student to study for himself representatives of several animal groups, and to make record of his observations by written and illustrated descriptions. The work will include histology and embryology.

INSTRUCTOR, *Prof. Osborn.*

ENGLISH LITERATURE.—Nineteen weeks, five hours per week. See English and History, page 60.

HISTORY.—Nineteen weeks, three hours per week. See English and History, page 60.

HISTORICAL LECTURE.—Nineteen weeks, one hour per week.

ELOCUTION.—Nineteen weeks, one hour per week.

HIGHER ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 63.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 63.

SURVEYING.—Eleven weeks, five hours per week. See Mathematics, page 63.

FRENCH OR GERMAN.—Thirty-eight weeks, two and one-half hours per week. See Modern Languages, page 63.

JUNIOR YEAR.

REQUIRED STUDIES.

CHEMISTRY.—Thirty-eight weeks, eight hours per week. This course embraces general chemistry and qualitative analysis during the first two terms, with the choice of two parallel courses in applied chemistry during the spring term, as explained below:

General Chemistry.—Daily exercises (lectures, recitations and laboratory work) during the first and second terms will include the preparation, properties and detection of the more important elements and compounds, with the outlines of qualitative analysis. Chemical philosophy will be gradually introduced, as the students acquire a sufficient variety of facts from which to generalize. This work is required of all Juniors.

Agricultural Chemistry.—Lectures and laboratory work will be provided during the spring term on the chemistry of soils, the ash of plants, the proximate constituents and the growth of plant and animal, and the chemistry of feeding and the dairy. This is required in the School of Agriculture, and elective in the School of Science.

Metallurgical Chemistry.—Lectures will be given during the spring term upon the chemistry of fuels, clays and ores, and on the chemical principles underlying the manufacture and refining of cast iron, wrought iron and steel. Students will have practice in the qualitative analysis of ores and manufactured products. This is required in the School of Mechanics and Engineering, and elective in the School of Science.

INSTRUCTOR, *Prof. Warder.*

ANALYTICAL GEOMETRY.—Twenty weeks, five hours per week. See Mathematics, page 63.

CALCULUS OR LITERATURE.—Eighteen weeks, five hours per week. See Mathematics, page 63; or English and History, page 60.

ELECTIVE STUDIES.—

Juniors may elect any two of the following:

1. **BOTANY.**—Nineteen weeks, ten hours per week. The instruction includes laboratory work, with references to the literature of the subjects studied. The laboratory work will consist in the study of **Histology of Phanerogams or Cryptogams,** intended to give a wider and more detailed knowledge of the methods of investigation and facts concerning the minute structure of the various plants selected. It is based upon the work done in the Freshman and Sophomore years.

A student electing the study of Cryptogams may confine his investigation to the injurious fungi, if he so desires.

II. Nineteen weeks, eight hours per week. A laboratory course in experimental **Vegetable Physiology,** with lectures for this. The preceding course in Histology is indispensable.

INSTRUCTOR, *Prof. Barnes.*

2. **ZOOLOGY.**—Thirty-eight weeks, eight hours per week. This course will consist chiefly of laboratory work, with lectures and quizzes to guide and test the student. Theses embodying the results of his study will be required from time to time. During the year especial attention will be given to the methods of studying animal histology, injections, hardening of tissues for section cutting, staining, embedding and the use of the microtome.

Each student will be required to mount a series of microscopic slides as a part of the work.

INSTRUCTOR, *Prof. Osborn.*

3. PHYSICS.—Thirty-eight weeks, eight hours per week. This year's work is devoted to precise physical measurements. Instruction is given by lectures, systematic laboratory work, and due discussion of the results so obtained.

Two-thirds of the time is devoted to laboratory practice. The following statement of subjects is intended to illustrate the character rather than the extent of the work done:

A study of the construction and adjustment of the balance and its use for various purposes; determination of the densities of solids and fluids; determination of pressure and hights by the barometers; construction and testing of the thermometers; measurements of extreme temperatures; determination of the melting and boiling points of various substances; hygrometry; study of radiant heat by Melloni's apparatus; determination of specific heat by various methods; a study of the elasticity of various bodies; use of the spectroscope, spherometer and polariscope; determination of the length of sound wave and the laws of vibrating bodies; photometry.

INSTRUCTOR, *Prof. Huston.*

4. HISTORY AND LOGIC. — Thirty-eight weeks, four hours per week. See English and History, page 61.

SENIOR YEAR.

REQUIRED STUDIES.

HUMAN PHYSIOLOGY.—Nineteen weeks, five hours per week. The course will be a series of lectures and recitations, based upon "Martin's Human Body" as a text-book, with as much practical study of anatomy and histology as is necessary to clearness and demonstrations of some of the simpler physiological experiments.

INSTRUCTOR, *Prof. Osborn.*

GEOLOGY.—Sixteen weeks, five hours per week. The first ten weeks will be devoted to structural and dynamical, and the last six weeks to historical geology.

INSTRUCTOR, *Prof. Barnes.*

PSYCHOLOGY.—Nineteen weeks, five hours per week. See Political and Intellectual Science, page 65.

POLITICAL ECONOMY.—Sixteen weeks, five hours per week. See Political and Intellectual Science, page 65.

ELECTIVE STUDIES.

Seniors may elect any two of the following, viz.:

1. **CHEMISTRY.**—Thirty-five weeks, eight hours per week, as a single elective, or double the number of exercises as two lines of elective work. Seniors who make chemistry as a single elective will take the course in quantitative analysis and prepare an experimental thesis, as described below; those who make chemistry a double elective will attend all the following lectures, supplemented by laboratory work:

(a) *Quantitative Analysis* and *Experimental Thesis*, embracing volumetric and gravimetric operations. During the last term each student will be expected to prepare a thesis, including a review of some subject in chemistry or chemical technology, with an experimental contribution to the same.

(b) *Organic Chemistry.* Two lectures and recitations per week during the first term. A laboratory course in proximate organic analysis, in the School of Pharmacy, is also open to undergraduates in the School of Science.

(c) *Chemical Technology.* Two lectures and recitations per week during the second term.

(d) *Theoretical Chemistry.* Two lectures per week during the spring term.

Instructor, *Prof. Warder.*

2. **PHYSICS.**—Thirty-five weeks, six hours per week. See Applied Electricity, page 44.

3. **BOTANY.**—Thirty-five weeks, eight hours per week. The character of the work done in this year will be at the option of the student, under the advice of the Professor, and the instruction is chiefly personal.

This offers decided advantages to those having a taste for any particular branch of botany, or allows students intending to study medicine to pursue those topics most intimately connected with that profession.

Instructor, *Prof. Barnes.*

4. ZOOLOGY.—Thirty-five weeks, eight hours per week. Students selecting this course will be allowed the greatest freedom of choice as to subject-matter, and encouraged to the greatest possible independence in their work. Such guidance and help will be given as is required to meet this end. None will be permitted to elect the course who have not previously given promise of being able to pursue it with profit. It will be observed that this course, with the previous biological courses, offers an opportunity for preliminary training to those who intend entering the medical profession in a direction which will be of great service in the special medical course.

INSTRUCTOR, *Prof. Osborn.*

5. LITERATURE.—Thirty-five weeks, four hours per week. See English and History, page 61.

APPARATUS AND APPLIANCES.

BIOLOGICAL APPARATUS.

The Botanical and Zoölogical Laboratories are provided with a sufficient outfit of microscopes and dissecting instruments to accommodate all the students who work in them. The student is furnished with the materials and utensils necessary for his work, and is held responsible for their proper care, and for any injuries they receive. A Botanical, Zoölogical and Geological Museum furnishes a great variety of material for illustration or comparison.

CHEMICAL APPARATUS.

The University has a good supply of chemical apparatus and a well-equipped laboratory. Each student is furnished with a full set of apparatus and the necessary chemicals for all his work and experiments, and he is held responsible for their proper use. He is charged with actual breakage and damage.

PHYSICAL APPARATUS.

The Physical Laboratory will accommodate forty students, and liberal appropriations have been made for its equipment and support. Much of the apparatus of this department was purchased for work of this character, and large additions have lately been made to it. A work shop is provided for the construction of special apparatus.

SCHOOL OF INDUSTRIAL ART.

The object of this school is, in addition to giving a good general education, to give instruction in Object Drawing in Outline, Light and Shade, and Color; in Linear Perspective; in Orthographic Projection, or the drawing of plans, elevations and sections; in Wood Carving, Clay Modeling and Decorative Design.

FRESHMAN YEAR.

INDUSTRIAL ART.—Twenty-seven weeks, five hours per week, and eleven weeks, fifteen hours per week. **Model Drawing in Outline.**—This includes free-hand outline drawing from round geometrical solids, as cylinders, cones, vases and crockery-ware; from straight line objects, as cubes, prisms, crosses and pyramids; also, the drawing of the above objects in groups and their application in drawing chairs, tables, sofas and buildings. **Linear Perspective.**—This subject includes the working of about one hundred problems illustrating the principles of parallel, angular and oblique perspective, and showing how to put into perspective any object. **Orthographic Projection.**—The instruction in this subject includes the drawing of about one hundred problems illustrating the principles for making "working drawings," including plans, elevations, developments and intersections. **Light and Shade.**—Under this head, model and object drawing in light and shade will be taught, using first the crayon and stump, and afterwards charcoal.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 62.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 62.

RHETORIC.—Twenty-seven weeks, four hours per week, and eleven weeks, three hours per week. See English and History, page 60.

ELOCUTION.—Twenty-seven weeks, one hour per week.

FRENCH OR GERMAN.—Twenty-seven weeks, five hours per week, and eleven weeks, two hours per week. See Modern Languages, page 63.

SOPHOMORE YEAR.

INDUSTRIAL ART.—Thirty-eight weeks, two and one-half hours per week. **Light and Shade.**—Further practice will be given under this head in drawing from casts and in using the brush with sepia, neutral tint and India ink. **Color.**—The instruction here embraces the theory of color, including the principles of harmony and contrast, and practice in water and oil colors, as applied to object drawing. No text-book is used.

HIGHER ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 63.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 63.

SURVEYING.—Eleven weeks, five hours per week. See Mathematics, page 63.

ENGLISH LITERATURE.—Nineteen weeks, five hours per week. See English and History, page 60.

HISTORY.—Nineteen weeks, three hours per week. See English and History, page 60.

PHYSICS.—Thirty-eight weeks, four hours per week. See Physics, page 50.

FRENCH OR GERMAN.—Thirty-eight weeks, two and one-half hours per week. See Modern Languages, page 63.

ELOCUTION.—Nineteen weeks, one hour per week.

HISTORICAL LECTURE.—Nineteen weeks, one hour per week.

JUNIOR YEAR.

INDUSTRIAL ART.—Thirty-eight weeks, ten hours per week. Students who have satisfactorily completed the work of the Freshman and Sophomore years in the School of Industrial Art are supposed to have a fair knowledge of drawing, at least sufficient to enable them to take up some special line of work. Three special lines of work are provided by the University: Wood-Carving, Clay-Modeling and Decorative Design. One of these may be taken during the Junior year and another during the Senior year; or, in case greater proficiency in any one of these lines is desirable, both Junior and Senior years may be spent on the chosen line. **Wood-Carving.**—At first the sharpening and the proper handling of tools are taught. Incised and low-relief carving is then practiced, followed by medium and high-relief work, as skill in the use of tools may warrant. Students begin to carve easels, tables, sideboards, etc., soon after entering the carving class.

ANALYTICAL GEOMETRY.—Twenty weeks, five hours per week. See Mathematics, page 63.

HISTORY.—Nineteen weeks, four hours per week. See English and History, page 60.

LOGIC.—Nineteen weeks, four hours per week. See English and History, page 61.

CALCULUS OR LITERATURE.—Eighteen weeks, five hours per week. See Mathematics, page 63, or English and History, page 61.

CHEMISTRY.—General Chemistry, twenty-seven weeks, eight hours per week; and Applied Chemistry, eleven weeks, eight hours per week. See Chemistry, page 51.

SENIOR YEAR.

INDUSTRIAL ART.—Thirty-eight weeks, ten hours per week. See Junior Year. **Clay-Modeling.**—The study and practice of this subject is a good preparation for work in wood, iron, stone, marble, silver or gold. It is indispensable to the first-class plasterer, stone-cutter and sculptor. After some practice in modeling simple ornaments, leaves, fruit, flowers, etc., the student is allowed to work on such subjects as will probably be of use in his future profession—it may be tiles, pottery, architectural terra cotta, or the human figure. **Decorative Design.**—In this course the principles of flat and sculptured ornamentation are studied and applied in designing surface decorations of all kinds. The characteristics of the different styles of historical ornament, ancient, medieval and modern, will be explained and illustrated by examples. No text-book is used.

HUMAN PHYSIOLOGY.—Nineteen weeks, five hours per week. See Human Physiology, page 53.

GEOLOGY.—Sixteen weeks, five hours per week. See Geology, page 53.

PSYCHOLOGY.—Nineteen weeks, five hours per week. See Political and Intellectual Science, page 65.

POLITICAL ECONOMY.—Sixteen weeks, five hours per week. See Political and Intellectual Science, page 65.

ELECTIVE.—Thirty-five weeks, five hours per week in Literature or additional art work.

SCHOOL OF PHARMACY.

This department of the University is designed to furnish a thorough training in the art of pharmacy, and the fundamental sciences upon which it rests. The course embraces two terms of five months each, beginning on the third Tuesday of September. The instruction is both theoretical and practical, the laboratories being open thirty-five hours per week.

Persons desiring information concerning the course of study, expenses, etc., can obtain a special circular by addressing the Registrar of the University.

GENERAL STUDIES.

ENGLISH AND HISTORY.

The design of this work is to perfect the student in the use of language; to acquaint him with the literature of his mother tongue, its development and a method of studying its standard works; and to discuss with him some of the great facts and principles involved in the progress of the human race. The character and extent of the work done in the different years is shown below.

FRESHMAN YEAR.

The course in English in the Freshman year includes Composition and Rhetoric. The instruction in **Composition** is designed to be practical, and is made as comprehensive and varied as the time devoted to the subject will permit. Special attention is given to both substance and form, the purpose being to enable the student to use a wise discrimination as to that about which he writes, and as to the arrangement of his thoughts in a systematic and tasteful way. The largest liberty of individual judgment and expression, consistent with propriety and good taste, is allowed.

The course in **Rhetoric** includes instruction in the leading principles of the art; a thorough drill in figures of speech, with analyses of figurative writings; a careful study of the styles of various writers, their excellencies and defects; and some instruction upon the methods of argumentation and persuasion.

SOPHOMORE YEAR.

The work of this year has a two-fold purpose: (1) To make a brief study of the origin, the development and a few masterpieces of English Literature; (2) To acquire a method of historical study.

The first nineteen weeks is given to **English Literature.** The plan pursued in the study embraces the following points: (1) The historical setting of each literary epoch; (2) The forms of literature most prominent in that epoch: (3) The authors in whose works these forms are best shown; (4) The style and characteristics of the literature of the period, as determined by reading and discussing in class one or more standard writings of the age; (5) The contemporaneous development of other literature than the English; (6) The effects of literary culture upon art, science, morality, government, etc., etc.

The last nineteen weeks is given to the study of **History.** The aim in this work is to give the student acquaintance with some of the prominent facts of history, their bearing upon the world's development, and their importance in the history of his race. It is also designed to make the student familiar with historic writings, to lead him into a method of original investigation, and to inspire him with an interest in the deeds of the men who have accomplished the civilization which he enjoys.

JUNIOR YEAR.

The first half of this year is given to a continuation of the study of **History.** The text-book is used as a sort of guide and made entirely subsidiary to a careful and philosophic investigation of the great forces—spiritual and material—operative during medieval and modern times in the world's growth. Man is studied as *spirit*, and hence less attention is given to the conflicts of force and more to the conflicts of mind. The art, the campaigns, and the results of war are made subordinate to the developments and the accomplishments of peace. The home life, the social life, the religious, the political, and the industrial life of peoples are examined closely, and the annals of events studied from these standpoints.

The latter half of the year the student may spend in the study of **Logic.** Details and forms are largely omitted, to the end that thorough practice may be had in dealing with the various methods of reasoning and kinds of fallacies.

Elective Literature and History.—For those desiring to elect a line of work in lieu of the Calculus in the last half of the Junior Year a special course in the joint study of English Literature and English History has been prepared.

SENIOR YEAR.

ELECTIVE LITERATURE.—The study of **Literature** in this year is designed for those of mature and thoughtful minds. There are no recitations in the usual sense, but in their stead familiar and thorough discussions. The members of the class meet the professor in charge not oftener than twice each week. In the meantime the class is engaged upon the study of a wide range of references, suggested by the instructor, or upon the analytic study of works under consideration.

The fall term is given to the study of the drama, the winter term to epic and lyric poetry, and the spring term to the various forms of prose.

One work each of Æschylus, Shakespeare and Moliere will be read in the first term; of Dante, Milton and several lyric poets in the second term; of Bacon, Emerson and Carlyle in the third term. The study of each work will be preceded by a lecture and accompanied by essays.

SPECIAL ADVANTAGES.

This advanced study of masterpieces, together with the philosophic study of history, affords an excellent opportunity to those who may desire to make a specialty of this line of work. The university library, now fairly furnished with reference works, is being enlarged from time to time, so that those who may desire to make original investigation can find here an opportunity to do so.

INSTRUCTOR, *Prof. Smith.*

MATHEMATICS.

FRESHMAN YEAR.

The first term is devoted to **Plane Geometry,** in which the student is required to demonstrate the theorems with logical accuracy, and to construct the problems with such care that the deduced lines measured on a scale of equal parts will be found practically correct.

Theorems and problems not found in the text-book are frequently given as exercises in original work.

The second term is given to **Solid and Spherical Geometry,** and in the third term **Higher Algebra** is commenced.

SOPHOMORE YEAR.

The first term is devoted to the continuation of **Higher Algebra** and the student is thoroughly drilled in the subjects of *Indeterminate Coefficients*, *Loci of Equations*, *Theory and Use of Logarithms*, *Indeterminate Equations*, *General Theory of Equations*, including *Sturm's Theorem*, *Cardon's Rule for Cubics* and *Horner's Method of Approximation*, and kindred subjects.

The second term is devoted to **Plane and Spherical Trigonometry,** and the third term is devoted to **Surveying.** Ample time is spent in field work to familiarize the student with the use of the instruments. He obtains data for the examples illustrative of the various rules laid down in the text-book, and thus learns the practical, as well as the theoretical, part of the science.

JUNIOR YEAR.

The first half of this year is spent in the study of **Analytical Geometry.** It is the intention to give such instruction in this branch as will fit the student for the **Calculus,** which branch is pursued for the rest of the year.

APPARATUS.

Belonging to the University is an excellent leveling instrument, also one of Gurley's transit instruments, furnished with a solar attachment, and an engineer's chain.

The transit with the solar attachment is a very valuable instrument, and students are thoroughly drilled in its use.

The students in Astronomy will have access to a fine telescope (made by Alvan Clark & Sons). This instrument clearly shows the satellites of Jupiter, the rings of Saturn, and resolves many of the double stars and principal nebulæ.

INSTRUCTOR, *Prof. Stevens.*

MODERN LANGUAGES.

These languages will be taught at the time indicated in the general scheme, and according to the latest and most approved method. Conversation will be made a prominent feature in the instruction.

FRESHMAN YEAR.

Twenty-seven weeks, five hours per week will be given to each language.

FRENCH.

First Term.—Bôecher-Otto Grammar. Worman's First Book Reader.

Second Term.—Complete first part of Bôecher-Otto Grammar. Read one of *Feuillet's* modern plays. Conversation.

GERMAN.

First Term.—Worman's Complete Grammar. First Book and Reader.

Second Term.—Grammar continued. Read one or more modern plays. Conversation.

SOPHOMORE YEAR.

Thirty-eight weeks, an average of two and one-half hours per week, will be given to each language.

FRENCH.

First Term.—Commence second part of the Grammar, Composition, Conversation, Corneille's Le Cid.

Second Term.—Grammar continued, Composition, Conversation, commence *Racine's Athalie.*

Third Term.—Composition, Conversation, complete *Racine's Athalie.*

GERMAN.

First Term.—Grammar continued, Conversation, commence *Schiller's William Tell.*

Second Term.—Grammar continued, Composition, complete *Schiller's William Tell.*

Third Term.—Composition, Conversation, *Goethe's Faust.*

Instructor, *Augusta N. Jones.*

POLITICAL AND INTELLECTUAL SCIENCE.

SENIOR YEAR.

The instruction in **Political Economy** aims to train the student in probable reasoning and to guard him against hasty generalizations in those departments of the science where the facts are not well determined and known. Special attention is given to those subjects which more directly relate to agricultural and mechanical interests.

The instruction in **Psychology** (Porter's Intellectual Science) does not differ essentially from that given in other colleges. The aim is to give less attention to the speculative and historical phases of the science and more to the empirical and practical.

SPECIAL WORK.

Persons who are qualified to do so, may be permitted for special reasons to select single or related lines of work in any school. The faculty will in each case prescribe the minimum amount of time to be spent in such work. A certificate stating the amount of work done will be given to students who pursue any special studies.

Regular students will not be permitted to select any study which will cause them to become irregular.

MILITARY TACTICS.

Instruction in Military Tactics is provided for by the law of Congress endowing this institution, and for several years such instruction has been given. The joining of the company is *voluntary*, but, when a student becomes a cadet, he is held to regular attendance and military discipline during the period of his enlistment, which shall be for the college year. For unexcused absence or misconduct, a cadet may, at the captain's discretion, be suspended from the company or be reported to the faculty for discipline. The company is supplied with the best breech-loading rifles, with complete accoutrements. Upton's Tactics is used as a text-book.

ADMISSION.

CONDITIONS OF ADMISSION.

Applicants for admission to the Freshman Class should be over sixteen years of age. Those possessing more than common physical health and strength, with high attainments in preparatory studies, may be admitted at an earlier age.

Certificates of good character will be required. Those who come from other institutions must produce certificates of honorable dismissal therefrom.

They must pass a satisfactory examination in Reading, Writing, Spelling, Descriptive Geography, History of the United States, English Grammar, Arithmetic, and in Algebra, including Quadratic Equations. The applicant's knowledge of English Grammar, Arithmetic and the elements of Algebra must be thorough. It is recommended to those who have not recently studied these branches, that they review them before applying for admission.

In **English,** attention will be given to the following matters:

1. Spelling, punctuation and capitals.
2. Power to comprehend and express the thought contained in selections.
3. Ability to compose creditably upon ordinary topics.
4. Grammatical construction, *i. e.* proper cases of nouns and pronouns, agreement of verbs with their subjects, correct forms of the verbs, use of the right prepositions, etc.
5. Ability to analyze to such an extent as to show a thorough knowledge of sentential structure.
6. Neatness and system.

In **United States History,** it is expected that the applicant will know:

1. So many of the prominent events, with their dates, as will indicate a good knowledge of these events in proper order.
2. The causes and the results of notable changes in institutions, government, customs, etc.
3. The geography of places prominent in United States history.

4. Important inventions, territorial growth, progress in manufactures, commerce, mining, etc.

☞For questions indicating the character of the examination, see page 84.

In **Arithmetic,** special attention is directed to the following subjects: Greatest Common Divisor, Least Common Multiple, Common and Decimal Fractions, Denominate Numbers, including the Metric System of Weights and Measures; Percentage, including Interest, Discount and Commission; and Extraction of the Square and Cube Roots.

In **Algebra,** the applicant should be thorough in the Fundamental Operations, Equations of the First Degree, with one or more unknown quantities, Equations of the Second Degree, Radicals, and Ratio and Proportion.

For samples of questions given, see page 83.

ADMISSION WITHOUT EXAMINATION.

Applicants who have completed their course of preparation in High Schools, which have been commissioned by the State Board of Education, will be admitted to the Freshman class without examination.

An arrangement has been made with the Director of the Chicago Manual Training School by which graduates of that institution will be received into Purdue University for the purpose of completing a course in Mechanical and Electrical Engineering, and will be given due credit upon all work previously accomplished by them as shown by the certificate of the Director.

ADMISSION TO ADVANCED CLASSES.

Should persons desire to enter an advanced class in the University, they will be required to give satisfactory evidence that they have done work equivalent to that already accomplished by the class to which entrance is desired.

Advanced students who can give evidence that they have done work equivalent to the Language, Literature, History and Mathematics of our Freshman and Sophomore years, can take the technical work done in those two years in one year, and thus be enabled to complete any one of the general courses in three years.

MATRICULATION PLEDGE.

As a condition of admission to the University, or any department therein, or of reëntrance, students are required to subscribe to all regulations of the University relating to the obligations and duties of students, and promise a faithful compliance therewith during their connection with the University; that is, until dismissed or graduated.

A copy of the rules and regulations of the University will be forwarded to any address upon application.

EXAMINATIONS FOR ADMISSION.

Entrance examinations are held at the University in June and September of each year. In 1886 the first examination will begin June 8, and the second September 7. Applicants may appear at either examination; but, when practicable, it is best to apply in June.

Examinations will usually require two days. *Candidates must be present ot 9 A. M.* on the days specified.

Arrangements have been made for holding entrance examinations in the several counties of the State, under the direction of County Superintendents. Applications for such an examination should be made to the President of the University, Lafayette, Indiana. On the receipt of one or more applications from any county, printed questions, with directions, will be sent to the County Superintendent, and the applicants may present themselves at the regular county examination for teachers, held the last Saturday of the month. The written answers will be forwarded to the University, where they will be read and graded, and a certificate of admission forwarded to each applicant who has passed the examination.

This local examination will occur on the last Saturday of August.

Applicants should state whether they wish to be examined for the Preparatory or for the Freshman Class.

APPLICATIONS FOR ADMISSION.

Application for admission to any department of the University should be made to the President, and prior to the opening of a year or term, when this is practicable. In making application by letter, applicants are requested to give their age, the studies which they have pursued, and a general idea of their attainments. A catalogue will be sent to any address, on application. Address, President of Purdue University, Lafayette, Indiana.

DEGREES.

Graduate Degrees.

I. The degree of Bachelor of Science (B. S.) will be conferred upon students who complete the prescribed course of study in either the School of Science, the School of Agriculture, or the School of Industrial Art.

II. The degree of Bachelor of Mechanical Engineering (B. M. E.) will be conferred on students who complete the prescribed course of study in the School of Mechanics and Engineering.

III. The degree of Graduate in Pharmacy (Ph. G.) will be conferred upon all persons who have graduated from the School of Pharmacy.

Post-Graduate Degrees.

I. The degree of Master of Science (M. S.) will be conferred upon the following conditions:

(*a*) Candidates must have received the degree of B. S. at this University, or at some other institution having equal requirements for it.

(*b*) Candidates must pursue and complete, at Purdue University, a special course in advanced science, pass an examination thereon, and present a satisfactory thesis.

(*c*) Graduates of Purdue University may, by permission of the Faculty, substitute for condition (*b*) the following, in which case a residence at Purdue University will not be required, viz.: Having held the degree of B. S. for not less than three years, they must pursue a special course in advanced science under the direction of the Faculty, pass an examination thereon, and present a satisfactory thesis.

II. The degree of Mechanical Engineer (M. E.) will be conferred upon the following conditions:

(*a*) Candidates must have received the degree of B. M. E. at this University, or the degree of B. S. or B. M. E. at some other institution, whose requirements for such degree are equal to our requirements for the degree of B. M. E.

(*b*) Candidates must pursue and complete, at Purdue University, a special course in Mechanical Engineering, pass an examination thereon, and present a satisfactory thesis.

(*c*) Graduates of Purdue University may, by permission of the Faculty, substitute for condition (*b*) the following, in which case a residence at Purdue University will not be required, viz.: Having held the degree of B. M. E. for not less than three years, during at least two years of which they must have been engaged in professional work, they must pass an examination and present a satisfactory thesis.

III. The degree of Analytical Chemist (A. C.) will be conferred upon the following conditions:

(*a*) Candidates must have received the degree of B. S., B. M. E. or B. A. at this University, or at some other institution having equal requirements, and must have as much special training in Chemistry as that afforded our own undergraduates.

(*b*) Candidates must pursue and complete, at Purdue University, a special course in Analytical, Theoretical and Industrial Chemistry, pass an examination thereon and present a satisfactory thesis.

The shortest time in which any one of the special courses referred to in conditions (*b*) can be completed will be one year; and, unless the candidate is exceptionally well prepared, a longer time will be required.

The required theses must be presented at least three weeks before Commencement Day.

A fee of five dollars for the diploma, in the case of graduate as well as of post-graduate degrees, must be paid to the Registrar before Commencement week.

POST-GRADUATES WORK.

Graduates of this and other colleges, who desire to pursue special lines of study or investigation, will be afforded laboratory facilities for such work, under the direction of the Faculty.

THE PREPARATORY CLASS.

INSTRUCTORS.

Oscar J. Craig, A. M., Principal.
Miss Flora E. Weed,
" Jennie M. Whipple, Assistants.
" Ida B. Moore,
William C. Latta, M. S., Agriculture.
James Troop, M. S., Horticulture.
Langdon S. Thompson, A. M., Industrial Drawing.
William F. M. Goss, Mechanical Drawing.
Michael Golden, Shop Work.

The Preparatory Class affords instruction in Algebra, Arithmetic, English, Elocution, Physiology, Physical Geography and History of the United States. The students who complete the required work in these subjects are prepared to enter the Freshman classes of any of the various schools of the University.

In addition to this regular course, instruction is also given in Agriculture, Shop Work and Mechanical Drawing, and Industrial Drawing. Students who make their preparation elsewhere for the Freshman classes of the University are not required to pass examination in these special industrial subjects. The requirements for admission to the Freshman class are given on page 66.

The Preparatory Class is in charge of a regular Professor of the University, and is provided with commodious rooms and all the appliances necessary for thorough and practical instruction. The fine apparatus found in the other departments of the University is used by the instructors of this class. The library is accessible to all students, and contains an excellent selection of the books needed for reference in pursuing the Preparatory studies. The course of study embraces one year's work, and is arranged as follows:

COURSE OF STUDY.

FIRST TERM.

REQUIRED.

Algebra. Fundamental Rules, Factors, and Multiples.—*Wentworth.*

Arithmetic. Review of the Metric System, Percentage, Proportion, Involution and Evolution.—*White.*

English. English Grammar reviewed, Analysis and Parsing.—*Harvey.*

Elocution. Including Articulation, Expression and the Study of Words.

ELECTIVE.

Agriculture, Shop Work and Mechanical Drawing, Industrial Drawing.

SECOND TERM.

REQUIRED.

Algebra. Fractions and Equations of the First Degree.—*Wentworth.*

English. Elements of Composition.—*Chittenden.*

History. History of the United States.—*Ridpath.*

ELECTIVE.

Agriculture, Shop Work and Mechanical Drawing, Industrial Drawing.

THIRD TERM.

REQUIRED.

Algebra. Quadratics, Radicals, Ratio and Proportion.—*Wentworth.*

English. English Literature and Composition.—*Selected.*

History. History of the United States.—*Ridpath.*

ELECTIVE.

Agriculture, Shop Work and Mechanical Drawing, Industrial Drawing, Physiology and Physical Geography.

REMARKS ON THE COURSE OF STUDY.

Students who enter the Preparatory Class will, in addition to the required academic work, select one of the industrial subjects marked elective, and having made the selection will continue the subject until the end of the year.

On entering the Freshman Class, a change of course will be permitted, although those who expect to follow the Agricultural course are advised to elect Agriculture in the Preparatory; those who intend to pursue the Mechanical course to elect Shop Work and Mechanical Drawing, and those who intend pursuing either the Industrial Art course or the Science course to elect Industrial Drawing.

The special work in Agriculture will be arranged as follows: During the first term instruction will be given in the subject of General Farming, during the second term in Stock Raising, and during the third in General Horticulture.

The Shop Work will include Bench Work in wood—giving practice in the use of the common carpenter's tools, and machine work in wood, including circular sawing and scroll sawing, and turning. The Mechanical Drawing will include practice in sketching and in making drawings to scale, in plan, elevation and section from copy.

The work in Industrial Drawing is as follows: *First Term*—Outline drawing from objects, such as cylinders, cones, vases and such common objects as illustrate the circle seen obliquely; the drawing of cubes, of square, triangular and hexagonal prisms, crosses, skeleton cubes, etc. *Second Term*—The drawing of objects in Light and Shade. Objects similar to the above will be drawn and shaded, using the crayon and stump, and afterwards charcoal, sepia, neutral tint, India ink, etc. *Third Term*—Shading will be continued during this term.

CONDITIONS OF ADMISSION.

Applicants for admission to the Preparatory Class should be fifteen years of age. They must pass a satisfactory examination in Arithmetic, Geography, English Grammar, Reading, Spelling, and Writing. The examination must show a good knowledge of these elementary branches as taught in the common schools.

Arrangements have been made for holding examinations for admission to the Preparatory Class in the several counties of the State under the direction of County Superintendents. Applications for examination should be made to the President of the University, or to the Professor in charge of the class, Lafayette, Indiana. For fuller directions, see page 68.

Applicants from other schools should bring certificates both as to scholarship and deportment.

Applicants who are known to have bad habits will not be admitted. When a student's habits and influence are found to be immoral, his connection with the Preparatory Class will be terminated.

ADVANTAGES.

LOCATION, GROUNDS AND BUILDINGS.

Purdue University is located about one mile west of the city of Lafayette, and within the village of Chauncey. The grounds are over one hundred feet above high-water mark in the Wabash river, and the buildings command a fine view of the city, valley and surrounding country. Lafayette is situated at the intersection of four railroad lines, extending respectively from Cincinnati and Indianapolis to Chicago, from Toledo to St. Louis, from Louisville, Ky., to Chicago, and from Sandusky, Ohio, to Bloomington, Ill. These roads give the University direct railroad connection with all parts of the State.

The campus and gardens contain twenty acres, and are beautifully laid out with walks and drives.

There are six large college buildings, viz: (1.) The University Hall, containing the chapel, two society halls, museums, library, recitation rooms, and Zoölogical and Botanical Laboratories. (2.) A boys' dormitory, with accommodations for ninety students. (3.) A building used for a young ladies' dormitory, a dining-hall and the Art Department. (4.) A Chemical and Physical Laboratory. (5.) Agricultural Hall, containing recitation rooms, an agricultural museum and the agricultural experiment laboratories. (6.) A Mechanical Laboratory, including machine shop, forge shop, foundry, wood-working shop and Testing Laboratory, with commodious draughting and recitation rooms.

Besides these there are several other buildings, including boiler and gas house, military hall, green house, and several farm buildings.

LIBRARY.

The Library occupies a commodious and well-lighted room, appropriately fitted and furnished. It contains a valuable collection of books of reference in each department, and a large number of miscellaneous works, many of standard value. The number of volumes in the Library January 1, 1886, exclusive of pamphlets and unbound works, was 3,266.

The Reading Room is supplied with the following journals and periodicals, viz.:

Agricultural Gazette, American Agriculturist, American Bee Journal, American Dairyman, American Grange Bulletin, American History Magazine of, American Journal of Science, American Machinist, American Microscopical Journal, American Naturalist, Art Amateur, Art Interchange, Art Magazine of, Atlantic Monthly, Blackwood's Magazine, Blacksmith and Wheelwright, Botanical Gazette, Breeders' Gazette, British Quarterly Review, Canadian Entomologist, The Century, Chemical News, Country Gentleman, Decorator and Furnisher, Drainage and Farm Journal, Edinburgh Review, Education, Engineering, Gardener's Monthly, Harper's Monthly and Weekly, Indiana Farmer, Journal of Royal Microscopical Society, Locomotive, London Quarterly Review, Mechanics, The Microscope, The Nation, National Live Stock Journal, Nature, New England Farmer, New England Journal of Education, New York Weekly Tribune, North American Review, Popular Science Monthly, Poultry World, Science, Scientific American and Supplement, Watchman, Western Manufacturer, Westminster Review, and several daily papers.

To these have recently been added the following pharmaceutical periodicals:

The American Druggist, The Analyst (Eng.), American Journal of Pharmacy, The Druggists' Circular, The Chemist and Druggist (Lond.), Pharmaceutical Record, and Western Druggist.

SOCIETIES.

Three literary societies are open to students—the Irving, the Philalethean and the Carlyle; the first and third for young men, the second for young women. The exercises consist principally of essays, declamations, debates, and orations, and are an efficient means of improvement in writing and speaking. The college societies have commodious halls, neatly carpeted and furnished.

Besides these there is a well organized Scientific Society devoted to the independent study of scientific subjects and an Art Club, both holding monthly meetings.

RELIGIOUS EXERCISES.

All students are required to attend morning prayers in Purdue Chapel daily at 10:15 A. M., except Saturday and Sunday.

Suitable exercises are held in Purdue Chapel every Sunday afternoon. Students on the college grounds, and those boarding in Chauncey, are expected to attend. The exercise is entirely unsectarian in its character, consisting of a sermon, or a lecture, upon some moral or religious topic, and prayer, Bible reading and singing. This service is conducted by the members of the Faculty or by persons who may be invited to do so by the President.

A branch of the Young Men's Christian Association was organized by the students in 1880, and it has held regular meetings each week during the past year-

EXPENSES, BOARDING, ETC.

EXPENSES.

Purdue University is a State Institution, and the tuition is therefore *free* to students who are residents* of the State of Indiana. The expense for board and for incidentals incurred in attending Purdue University are very low.

The charges for the year 1886–87 will be as follows:

Entrance fee in College, per year		$5 00
Entrance fee in Preparatory Department, per term, $2; per year		5 00
Incidental fee in all departments, per term		3 00
Laboratory fees, per term, Freshman, $2; Sophomore, $3; Juniors and Seniors		5 00
Table board per week,	Dining Hall†	2 50
	Club	2 00
Room rent, heat and light, per week		50
Washing, per dozen, not exceeding		75

From the above it is seen that a student's average expenses for thirty-eight weeks in the College, except for books, will be as follows:

Entrance and incidental fees	14 00
Laboratory fees, average	11 25
Table board (averaging $2.25 per week)	85 50
Room, heat and light	19 00
Washing, about	12 00
Total for the year, about	$141 75

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*Persons residing outside of the State of Indiana, who desire to attend Purdue University, will apply to the President of the Faculty for information concerning terms, etc.

†The Boarding House is kept by Mrs. G. Stockton, to whom all bills are paid.

All bills must be paid *in advance*, entrance and incidental fees at the beginning of the term or year, and room rent at the beginning of each term. A *pro rata* part of all fees paid in advance will be refunded to students who are withdrawn on account of sickness.

Students taking a course in Chemistry are required to deposit with the Registrar five dollars a term in advance as a breakage fund. The money that is not used will be refunded at the close of the term.

YOUNG MEN'S DORMITORY.

The Young Men's Dormitory is, by an order of the Board of Trustees, to be reserved for the use of appointed students, with the *proviso* that other students who had already acquired Dormitory privileges, at the time the order was passed, may, at the discretion of the President, be permitted to occupy rooms in the Dormitory until they graduate.

The young men occupying rooms in the Dormitory are required to keep them in good order and to observe all other rules governing their occupancy. A failure to observe such rules, or other disorderly conduct, forfeits a student's right to a room. No firearms are allowed to be kept in the rooms. The occupants of rooms are held responsible for all injury to the same or to furniture and fixtures therein, and all gas burned after 10 o'clock is charged extra. As a condition of occupying a room, a student must deposit with the Registrar five dollars, as a fund to pay for breakage, extra gas, and other fines. When he withdraws from the Dormitory, or at the close of the year, so much of this money as is not required to pay charges will be refunded. Members of the Freshman and Sophomore classes, and of the Preparatory, who occupy the Dormitory, are not allowed to visit the city of Lafayette in the evening, except by permission.

Each suite of rooms in the Dormitory is furnished with bedsteads, washstands and sets, and tables and chairs. Mattresses and bedding, towels, soap, mirrors, brooms, etc., are furnished by students. Young men occupying rooms may procure table-board at the Boarding House or elsewhere, as they may prefer, but self-boarding in the Dormitory is not allowed. Boarders will not be received at the Boarding House for less than a term.

THE LADIES' HALL.

The young ladies occupying rooms in the Ladies' Hall are required to keep them in good order and to observe all rules governing their occupancy. Gas consumed after 10 o'clock, and the cleaning of rooms while occupied, will be charged extra. The rooms are neatly carpeted, and are furnished with bedsteads and mattresses, washstands and sets, tables and chairs. The occupants furnish bedding, towels, mirrors, etc. The young ladies who occupy rooms are under the personal supervision of a lady member of the Faculty. Only twenty young ladies can be accommodated with rooms.

PRIVATE BOARD.

Students who may not wish to board in the University can obtain board in private families in Chauncey at reasonable rates. Good accommodations for self boarding, or for club-boarding, can also be secured in Chauncey, and the cost of board, not including room, may thus be reduced to about $2.00 or $2.25 per week. A good sidewalk extends from the University to the village.

STUDENTS APPOINTED BY COUNTY COMMISSIONERS.

A law passed March 12, 1877, gives the Board of Commissioners of each county of Indiana the authority to appoint two students, residents of the county, to Purdue University, and the students thus appointed are exempt from the payment of entrance and incidental fees, and the regular charges for room, heat and light. They must, however, pay the usual laboratory fee for chemicals and other materials, and for the use of instruments, machinery, etc. The reduction thus provided for amounts to $33 a year, thus reducing the necessary average expenses of a student to about $100 per annum. Sixty-nine of the students in attendance the present year were appointed. The students appointed must reside in the county in which the appointment is made.

Students who desire to enter Purdue University from a county whose quota of appointed students is already full are reminded that no tuition fee is charged, and that they can enter the University by the payment of the incidental fees.

Such persons should not wait until a vacancy occurs, but should enter whenever they are prepared to do so, and immediately file their application, asking for a county appointment whenever a vacancy shall occur.

WORK.

On the Farm.—The farm is cultivated with improved implements, and hence there is but little work which can be done by students. The teams must be handled and cared for by regular hands. About the only assistance which students can render is in harvesting the fall crops and in the care of stock; and this work, as well as that needed on the University grounds, in the nursery, orchard and green house, and in the experimental field, is chiefly done by *the students taking the Agricultural Course.* The amount of other work to be done by the students is very limited, and no one should come to the University depending upon work, if he has not previously made a successful application for it.

In the Shops.—On Saturdays, and at other convenient times, opportunity will be given to those who are proficient in their class work to add to their experience by making repairs, and in the construction of tools and appliances. For such work students receive compensation varying with the extent of time covered by their shop experience.

PAPERS ISSUED BY THE UNIVERSITY IN 1885–6.

1. Report on "The Hessian Fly" . . . . . . PROF. WEBSTER
2. Report on "Experiments with Various Commercial Fertilizers on Corn and Potatoes" . PROF. LATTA
3. Report on "Insects Affecting Growing Wheat" . . . . PROF. WEBSTER
4. Report on "Experiments with Wheat" . . . PROF. LATTA
5. Report on "Experiments with Small Fruits" . . . . PROF. TROOP
6. Report on "Experiments with Oats and Corn" . . . . PROF. LATTA
7. *"Pharmaceutical Notes," embracing, besides other work, extracts from the following theses prepared by the Senior Class, viz.:

Antimony Compounds . . . . . ERNEST G. EBERHARDT
Calcium . . . . MANUEL JAY
Sulphurous Acid . . . . JOHN KENNEDY
Syrup of Iodide of Iron . . . . EDWIN J. MOWRY
Oleates . . . . LOUIS H. SCHULMEYER
Chloral . . . . BERT D. WESTENFELDER
Tincture of Nux Vomica . . . . . . EMORY J. YEAGER

SAMPLES OF EXAMINATION QUESTIONS FOR ADMISSION.

I. IN ENGLISH GRAMMAR.

1. Write the following selection, giving the proper punctuation and capitals:

had it not rained on the night of the seventeenth of june 1815 the future of europe would have been changed a few drops of water more or less prostrated napoleon the battle of waterloo and this gave blucher time to come up could not be commenced before half-past eleven why because the ground was soft

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*To be issued.

those who would get a clear idea of the battle of waterloo have only to lay down upon the ground in their mind a capital a the left stroke of the a is the road from nivelles the right stroke is the road from genappe the cross of the a is the sunken road from ohain to braine-l'alleud the top of the a is mont st jean wellington is there the left-hand lower point is hougoumont Reille is there with jerome bonaparte the right-hand lower point is la belle alliance napoleon is there.

2. Write an essay of ten or fifteen lines upon the subject—"Love of Country."

3. Give an analysis of the following sentence:

"Like as a father pitieth his children, so the Lord pitieth them that fear him."

4. Give the plurals of the following: *mouse*, *man*, *baby*, *valley*, x, *datum*, *church*, *genus*, *index*, *negro*.

Decline *I*, *woman*, *William*; compare *good*, *perfect*, *evil*; give the principal parts of *lie* (to recline), *see*.

6. Correct the errors in the following sentence:

I seen the boy raise up quick and seize the man who the blame was laid on.

7. Write the following poetry in your own words in prose:

> "He that is down, needs fear no fall;
> He that is low, no pride;
> He that is humble, ever shall
> Have God to be his guide.
> I am content with what I have,
> Little be it, or much;
> And, Lord, contentment still I crave,
> Because thou savest such."

8. What is a modifier? How many kinds? Give an example of each.

9. How does a complex sentence differ from a compound sentence? Illustrate by examples.

10. What parts of speech have comparison? Declension? Inflection?

II. IN ALGEBRA.

1. Give the rule for signs in Multiplication.
2. Multiply $3x^2-2xy-2y^2$ by $2x^2+3xy-4y^2$.
3. Divide $6x^4+13ax^3-13a^3x-5a^4$ by $2x^2-a^2-3ax$.

4. Multiply $1-\frac{a-b}{a+b}$ by $2+\frac{2b}{a-b}$.

5. Divide $\frac{7a^3b^{\frac{4}{5}}x^{\frac{1}{3}}}{11mn^{\frac{2}{3}}y^{\frac{3}{7}}}$ by $11\ m^3n^{\frac{3}{5}}x^{\frac{4}{7}}y^{\frac{1}{3}}$.

6. Add $\sqrt{50}$ and $\sqrt{98}$. Also $\sqrt{\frac{3}{4}}$ and $\sqrt{\frac{1}{3}}$.

7. Extract the Square Root of $b^4+24a^3b+10a^2b^2-8ab^3+9a^4$.

8. Given $\left\{\begin{array}{l}\frac{1}{2}x+\frac{1}{3}y+\frac{1}{4}z=62\\ \frac{1}{3}x+\frac{1}{4}y+\frac{1}{5}z=47\\ \frac{1}{4}x+\frac{1}{5}y+\frac{1}{6}z=38\end{array}\right\}$ to find x, y and z.

9. If $a:b::c:d$, prove that $a+b:a-b::c+d:c-d$.

10. Given $2\sqrt{x}+x=8$: Find x.

QUESTIONS IN ARITHMETIC.

1. $3\frac{3}{4}+6\frac{7}{11}-2\frac{4}{5}+8\frac{3}{7}=$what?

2. Divide $\frac{4\frac{3}{4}}{2\frac{2}{3}}$ by $\frac{2\frac{7}{8}}{3\frac{4}{5}}$.

3. Divide 3.723 by .0469.

4. Find the true discount on $456.25 due in 2 y. 3 m. 18 ds., money being worth 7% per annum.

5. If I give my note at bank for $500, payable in 90 days from date, what sum shall I receive, the note being discounted at 8% per annum.

6. Sold a horse for $90, which was 10% less than the cost; I invested the amount received in sugar at 6¼ cts. per pound, and sold it for 7 cts. per pound. Did I gain or lose on the whole transaction, and how much?

7. Find the square root of $\frac{75}{243}$.

8. Find the cube root of 110592.

9. How many acres in a rectangular field 120 meters long and 86 meters wide?

10. Find the greatest common divisor of 152 and 336. Also, the least common multiple of 1081, 3335 and 4991.

UNITED STATES HISTORY.

1. Describe briefly the aborigines of Northern, Central and Southern North America.

2. What period in United States History, between 1492 and 1607? Three important events during that period.

3. Give three remote and three immediate causes of the American Revolution.

4. What was the "Declaration of Independence"? When made? Where? By what body? Who wrote it?

5. How did Indiana become a part of the United States? Kansas? California?

6. Time, cause, results, of the Nullification Movement.

7. Of what States were the following Presidents natives: (a) Buchanan, (b) Jackson, (c) Taylor, (d) Garfield, (e) Lincoln, (f) Jefferson, (g) Adams?

8. What great questions were at stake in the Civil War?

9. Give a brief account of the annexation of Texas.

10. State, briefly, who the following men were: (a) Samuel Adams, (b) Thos. Jefferson, (c) Jno. C. Calhoun, (d) Jno. Brown, (e) Chas. Sumner.

CALENDAR FOR 1886-7.

FIRST TERM.

The first term, fifteen weeks, begins Thursday, September 9, 1886, and ends Wednesday, December 22, 1886.

SECOND TERM.

The second term, twelve weeks, begins Tuesday, January 4, 1887, and ends Friday, March 25, 1887.

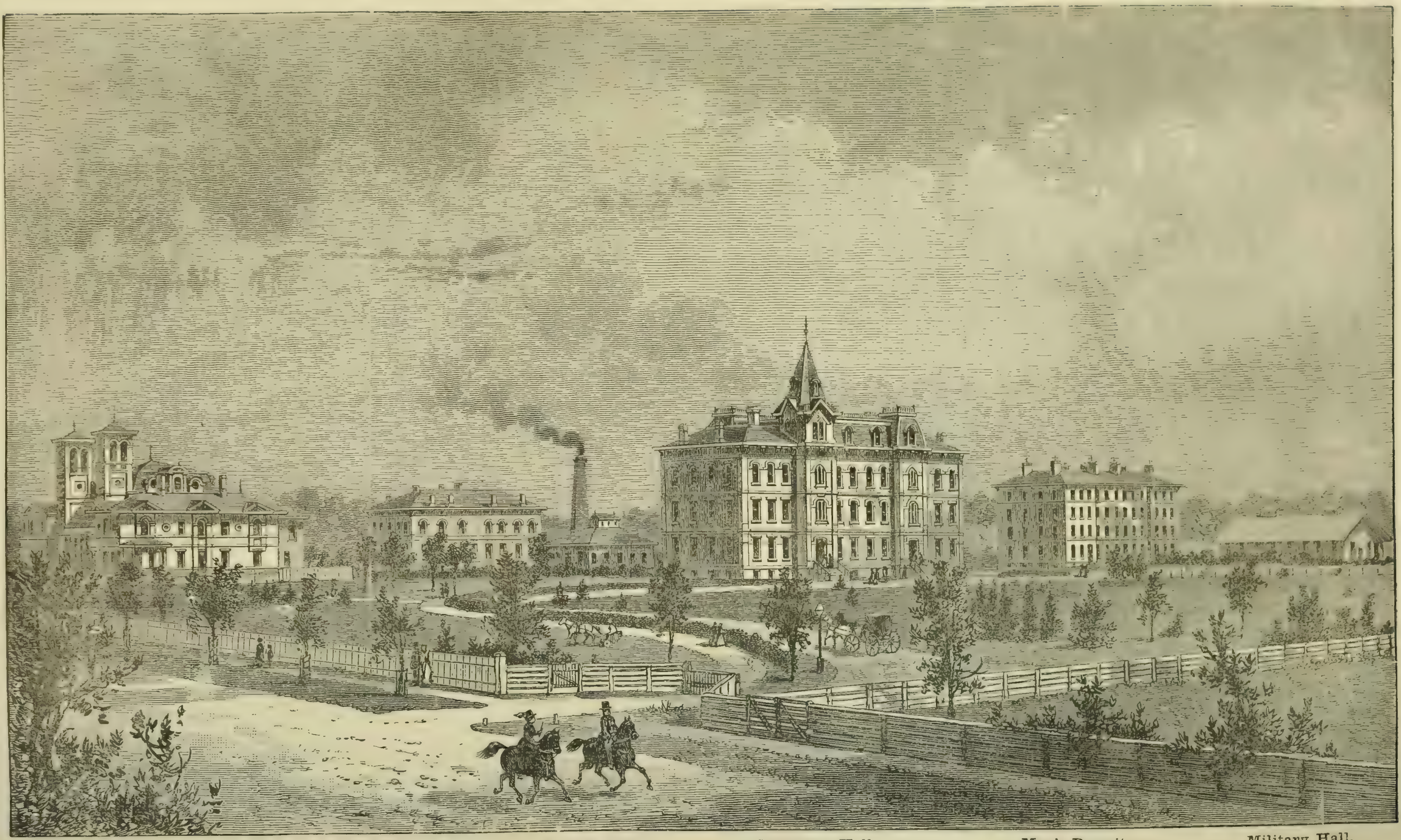
THIRD TERM.

The third term, eleven weeks, begins Monday, March 28, 1887, and ends Thursday, June 9, 1887.

COMMENCEMENT, THURSDAY, JUNE 9, 1887.

EXHIBITIONS.

The annual entertainments of the Literary Societies are held the second week of the third term.


Boarding House.
Industrial Art Hall.
Ladies' Hall.
Laboratory.
Mechanics' Shop.
Ergine House.
University Hall.
Men's Dormitory.
Military Hall.

PURDUE UNIVERSITY, LAFAYETTE, IND.

THE

ANNUAL REGISTER

OF

PURDUE UNIVERSITY

LAFAYETTE, IND.

1886-87.

INDIANAPOLIS:
WM. B. BURFORD, PRINTER AND BINDER.
1887.

CALENDAR FOR 1887-88.

Session days are indicated by bold-face figures.

July to December, 1887.

JULY.

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

AUGUST.

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

SEPTEMBER.

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	**8**	**9**	10
11	**12**	**13**	**14**	**15**	**16**	17
18	**19**	**20**	**21**	**22**	**23**	24
25	**26**	**27**	**28**	**29**	**30**	

OCTOBER.

S	M	T	W	T	F	S
						1
2	**3**	**4**	**5**	**6**	**7**	8
9	**10**	**11**	**12**	**13**	**14**	15
16	**17**	**18**	**19**	**20**	**21**	22
23	**24**	**25**	**26**	**27**	**28**	29
30	**31**					

NOVEMBER.

S	M	T	W	T	F	S
		1	**2**	**3**	**4**	5
6	**7**	**8**	**9**	**10**	**11**	12
13	**14**	**15**	**16**	**17**	**18**	19
20	**21**	**22**	**23**	24	25	26
27	**28**	**29**	**30**			

DECEMBER.

S	M	T	W	T	F	S
				1	**2**	3
4	**5**	**6**	**7**	**8**	**9**	10
11	**12**	**13**	**14**	**15**	**16**	17
18	**19**	**20**	**21**	22	23	24
25	26	27	28	29	30	31

January to June, 1888.

JANUARY.

S	M	T	W	T	F	S
1	2	3	**4**	**5**	**6**	7
8	**9**	**10**	**11**	**12**	**13**	14
15	**16**	**17**	**18**	**19**	**20**	21
22	**23**	**24**	**25**	**26**	**27**	28
29	**30**	**31**				

FEBRUARY.

S	M	T	W	T	F	S
			1	**2**	**3**	4
5	**6**	**7**	**8**	**9**	**10**	11
12	**13**	**14**	**15**	**16**	**17**	18
19	**20**	**21**	**22**	**23**	**24**	25
26	**27**	**28**	**29**			

MARCH.

S	M	T	W	T	F	S
				1	**2**	3
4	**5**	**6**	**7**	**8**	**9**	10
11	**12**	**13**	**14**	**15**	**16**	17
18	**19**	**20**	**21**	**22**	**23**	24
25	**26**	**27**	**28**	**29**	**30**	31

APRIL.

S	M	T	W	T	F	S
1	**2**	**3**	**4**	**5**	**6**	7
8	**9**	**10**	**11**	**12**	**13**	14
15	**16**	**17**	**18**	**19**	**20**	21
22	**23**	**24**	**25**	**26**	**27**	28
29	**30**					

MAY.

S	M	T	W	T	F	S
		1	**2**	**3**	**4**	5
6	**7**	**8**	**9**	**10**	**11**	12
13	**14**	**15**	**16**	**17**	**18**	19
20	**21**	**22**	**23**	**24**	**25**	26
27	**28**	**29**	**30**	**31**		

JUNE.

S	M	T	W	T	F	S
					1	2
3	**4**	**5**	**6**	**7**	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

BOARD OF TRUSTEES.

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Professor of Mechanical Engineering and Director of Testing Laboratory.

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Professor of Horticulture and Entomology.

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Professor of Physics and Superintendent State Weather Service.

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Professor of Literature and History.

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Lady Principal and Instructor in English.

ARTHUR L. GREEN, PH. C.,
Professor of Pharmacy.

PURDUE UNIVERSITY.

FACULTY

For Year Beginning September 8, 1887.

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Professor of Industrial Art.

WILLIAM F. M. GOSS,
Professor of Practical Mechanics.

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Professor of Botany.

——————*
Professor of Mechanical Engineering.

ALFRED E. PHILLIPS, C. E.,
Professor of Civil Engineering.

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* A naval detail has been made, but the name is withheld until papers have been signed.

STANLEY COULTER, A. M.,
Professor of Zoology, and Assistant Principal Preparatory Class.

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Professor of Domestic Economy.

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Instructor in French and German.

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Instructor in Literature and Elocution.

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Instructor in Wood Shop and Foundry.

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F. M. WEBSTER,
U. S. Bureau of Entomology, Economic Entomology.

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Engineer and Superintendent of Buildings.

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RICHARD W. SWAN, A. M.,
Librarian and Registrar.

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Assistant in Forging and Machine Work.

WILLIAM A. FANKBONER, B. S.,
Assistant in Chemistry.

*LURA L. THOMPSON, B. S.,
Assistant in Wood-carving.

†ANNIE E. BAKER, B. S.,
Assistant in Wood-carving.

‡JOSEPH SWEARINGEN, B. M. E.,
Assistant in Mathematics.

EMPLOYES.

LOUIS BIANCHI,
Engineer and Superintendent of Buildings.

PIERRE VAN LANDEGHEM,
Florist and Gardener.

PATRICK TRACEY,
Janitor.

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*To January 1, '87. †From January 1, '87. ‡Part of year.

SUNDAY CHAPEL LECTURES.

1886-87.

Sept.	12.	Rev. A. Marine	Lafayette.
“	19.	Judge James B. Black	Indianapolis.
“	26.	Prof. M. B. Anderson	Lafayette.
Oct.	3.	John H. Holliday	Indianapolis.
“	10.	Louis Howland	Indianapolis.
“	17.	Hon. W. D. Foulke	Richmond.
“	24.	Prof. W. W. Grant	Indianapolis.
“	31.	Hon. B. C. Hobbs	Bloomingdale.
Nov.	7.	Rabbi Cadden	Lafayette.
“	14.	Mrs. Layyah Barrakat	Syria.
“	21.	President W. T. Stott	Franklin College.
Dec.	5.	May Wright Sewall	Indianapolis.
“	12.	Rev. O. E. Palmer	Lafayette.
“	19.	Hon. B. K. Higinbotham	Frankfort.
Jan.	9.	Rev. Alexander Blackburn	Lafayette.
“	23.	Rev. R. S. Martin	Chauncey.
Feb.	6.	Prof. A. B. Milford	Wabash College.
“	13.	Prof. L. S. Thompson	Lafayette.
“	20.	Rev. W. P. Kane	Lafayette.
“	27.	President D. S. Jordon	State University.
Mch.	6.	Rev. Alexander Blackburn	Lafayette.
“	13.	Prof. J. L. Campbell	Wabash College.
April	3.	Rev. W. P. Kane	Lafayette.
“	10.	Prof. M. B. Anderson	Lafayette.
“	17.	Prof. D. W. Dennis	Earlham College.
“	24.	Rev. A. Marine	Lafayette.
May	1.	Rev. B. Wilson Smith	Lafayette.
“	8.	Dr. A. W. Brayton	Indianapolis.
“	15.	Theodore L. Sewell	Ind’lis Class’l Sc’l.
“	22.	E. W. Halford, Esq	Ind’lis Journal.
“	29.	Emma Mont McRae	Marion.

STUDENTS.

COLLEGE.

POST GRADUATES.

Annie Embree Baker, B. S. Industrial Art.
Purdue '86.

Lewis Conner Carter, C. E. Mechanics.
Univ. Tenn. '85.

Margaret Jane Erisman, B. S. Industrial Art.
Purdue '80.

William Arthur Fankboner, B. S. Chemistry.
Purdue '85. Candidate for degree of A. C.

Mary Florence Murdock, B. S. Industrial Art.
Purdue '86.

Albert Brown Porter, B. S. Physics and Chemistry.
Purdue '84. Candidate for degree of M. S.

Walter Stevens Ratliff, B. S. Agriculture, Forestry and History.
Purdue '83. Candidate for degree of M. S.

Eva Wilson Smith, B. S. Literature.
Purdue '81.

Ida Virginia Smith, B. S. Literature.
Purdue '83.

Ella May Stockton, B. S. Literature.
Purdue '85.

Joseph Swearingen, B. M. E. Engineering, Physics and Geology.
Purdue '86. Candidate for degree of M. E.

SENIOR CLASS.

George Ade	[*]S	Kentland.
William Brady	S	Lafayette.
Harry Thomas Cory	M	Chauncey.
Charles Fremont Moore	S	Montmorenci.
Flora Fannie Roberts	I	Chauncey.
Charles Austin Stafford	S	Millville.
Bennett Taylor	M	Lafayette.
Kate Wentz	I	Chauncey.

JUNIOR CLASS.

Mary Catherine Barr	I	Lafayette.
Lemuel Stearns Boggs	M	Chauncey.
Moses Taylor Boggs	S	Chauncey.
Henry Luke Bolley	S	Holman.
Jessie Born	I	Lafayette.
Frank Webster Brady	M	Wellsburg, W. Va.
Samuel Glenn Brosius	M	Gallipolis, O.
John Breckenridge Burris	S	Cloverdale.
Mary Elizabeth Cooper	I	Lafayette.
Arthur Goss	A	Vincennes.
Ben Looker Harvey	S	Lafayette.
Isaac E. Jay	M	Richmond.
James Allen Lilly	M	Patton.
Harry Land	M	Richmond.
Ransom Tedrow Lewis	M	Indianapolis.
William James Lutz	S	Wea.
Joseph Franklin McBeth	M	Wea.
Charles Milton Mock	M	Rushville.
James F. M. Morse	M	Evansville.
John O'Gara	M	Lafayette.
William Henry Olds	M	Fort Wayne.
Anna Kelly O'Neall	I	Lafayette.

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[*] Students in the School of Science are designated by S; in the School of Agriculture and Horticulture by A; in the School of Mechanics and Engineering by M; and the School of Industrial Art by I.

Philip Thurber Potter	M	Lafayette.
Frank Lewis Rainey	S	Lafayette.
Sadie Raub	I	Chauncey.
James C Ross	I	Raub.
Augustus Ruffner	M	Charleston, W. Va.
Albert Scheible	M	Chicago, Ill.
Carrie Ernestine Shoemaker	S	Lafayette.
James Samuel Shortle	S	Goldsmith.
William Taylor Thayer, Jr	M	Charleston, W. Va.
Ella Wallace	I	Lafayette.
John Jenkins Wilmore	M	Trenton.
William Sleeper Windle	S	Farmers' Institute.

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SOPHOMORE CLASS.

Anna Pencelia Anderson	I	Wea.
James Elmer Bittle	M	Whitlock.
Oakley Bright	M	Rainsville.
Albert Marshal Brosius	M	Gallipolis, O.
Handly Caraway	S	Sugar Creek.
Paul Henry Chapin	M	Indianapolis.
Clarence Limes Cory	M	Chauncey.
Clifford Crowell	M	Portland.
Charles Luther Davidson	M	Hazleton.
Louis Edgar Davis	A	Azalia.
Barney Harman Dorner	S	Frankfort.
Jasper Marion Dresser, Jr.	S	Lafayette.
Charles Francis Enyart	A	Walton.
George Gregg Floyd	M	St. Paul.
Nellie Floyd	I	St. Paul.
Charles Groat Foresman	M	Lafayette.
John Philip Foresman	M	Lafayette.
Arvel Herkless	A	Knightstown.
William Laubach Horn	M	Lafayette.
Oliver Morton Jones	A	Roy Roy.
Frank Eugene King	M	Avilla.
Emerson James Lesley	M	Winchester.
Morris Levistein	M	Spencer.

Dumont Lotz	S	Portland.	
Abram McClamrock	A	Frankfort.	
John William McCorkle	A	Shawnee Mound.	
Benjamin Franklin McCoy	A	Monroe City.	
John Tinney McCutcheon	I	Lafayette.	
Fannie Georgiana McGrath	I	Lafayette.	
Charles Edward Middleton	M	Madison.	
Franc Blackmore Parker	M	Lafayette.	
Harry Everett Pierce	M	Pine Village.	
Charles Warner Pifer	M	Lafayette.	
Charles Remster	S	Veedersburg.	
Albert Rogers	I	Lafayette.	
Daniel Royse	M	Chauncey.	
Samuel Nourse Saltmarsh	A	Sunman.	
Wilbur Stevenson Sample	M	Lafayette.	
John Frederick Schnaible	M	Lafayette.	
George Harvey Searcy	S	Patriot.	
Jacob Warne Sholl	M	Hobart.	
Robert Bangs Stearns	M	Madison.	
Albert Stewart	M	Mitchell.	
William Leon Stumph	M	Indianapolis.	
Henry Andrew Taylor	M	Chauncey.	
Alvin J. Thomas	A	Marion.	
Alva Courtney Washburn	M	Lafayette.	
William Heath Wells	M	Lafayette.	
May Blanche VanNatta	I	Battle Ground.	49

FRESHMAN CLASS.

Nora Ethel Abernathy	Oxford.
Lewis Ahrens	Attica.
Frederick Paul Anderson	South Bend.
Walter Jones Aylesworth	Attica.
Frank Bales	Dana.
Ruth Barr	Lafayette.
Kate Baugh	Farmers' Institute.
Nellie Berkey	Chauncey.
Frank Bittle	Whitlock.

Lue Lawrence Boggs	Chauncey.
Albert Borden	Peru.
Charles Newton Branch	Perkinsville.
William Irvin Broaddus.	Connersville.
William Miller Butterworth	Laporte.
Laura Burton	Dayton.
James Chancellor.	Kentland.
Nellie Kinsley Claypool	Chauncey.
Estella Coddington.	Chauncey.
Bertha Crouse	Lafayette.
James Henry Cullen	Nashville.
Susie Virginia Dasher.	Delphi.
Nereus Fowell Davis	Elizabeth.
William Robert Deardorf.	Wea.
Edgar Morton Dillman	Waynesburg.
William Arthur Dresser	Lafayette.
George Grant Dyer.	Brookston.
Eva Levina Ennis.	Battle Ground.
Willard Clinton Fitzer.	Montez.
William Moses Gilmore	Boggstown.
Harry A. Gilmore.	Jeffersonville.
Helen Golden	Lawrence, Mass.
Charles Gough	Muncie.
Henry Herschel Harris.	Boswell.
Alma Herkless.	Knightstown.
James David Hoffman.	Auburn.
Walter Scott Holmes.	Indianapolis.
Lillian Howard	Lafayette.
Virginia Elizabeth Hussey	Chauncey.
Clarence Fletcher Jamison	Lafayette.
Everett Orville Jones	Red Wing, Minn.
Hiram Jones	Rob Roy.
Lulu Maude Jones	Chauncey.
Thomas P Jones	Brazil.
Perry Culver Kirtley	Chase.
Harry Knight	Lafayette.
Richard Kumler	Lafayette.
Cora Lacy	Perrysville.
David Robert Lewis.	Greensburg.

Samuel Oyler Lindsay	Lafayette.
James Henry Little	Lowell.
Albert Martin	Lafayette.
Charles Elton McClure	Newtown.
George Jones McClure	Whitlock.
Anna Mary Meharry	Shawnee Mound.
Allen Jey Miller	Farmers' Institute.
Addison Miller	Farmers' Institute.
Dana Ward Moore	Lafayette.
John Ely Moore	Coesse.
John Lewis Nally	Battle Ground.
Jennie Elizabeth Newton	Chauncey.
Julia O'Gara*	Elston.
Wilbur Logan Pavey	Lebanon.
Herbert Perrin	Lafayette.
William Ransdell	Franklin.
Henrietta Raub	South Raub.
Mary Ruth Raub	South Raub.
Gertrude Cora Read	Chauncey.
Mary Lyle Reid	Madison.
Charles Russ Richards	Clark's Hill.
Edwin S. Rittenhouse	Liberty Mills.
Eldridge Benton Riser	Burnett's Creek.
Mina Estella Robinson	Orange.
Charles William Ross	Lafayette.
Robert Lee Ruley	Janesboro.
Taylor Sample	Lafayette.
Harry William Sheehan	Lafayette.
Edwin Arthur Snodgrass	Chauncey.
Effie Maude Somerville	Lafayette.
Ulysses Morton Stewart	Patriot.
Henry Eleazer Vanderlip	Elkhart.
Robert Bee Wallace	Lafayette.
Savella Washburn	Lafayette.
Letitia Welch	Chauncey.
Lydia Weyher	Chauncey.
Lulu Whistler	Monitor.

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*Died March 13, 1887.

Harry Spelter White	Indianapolis.
William Alvin Williams	Pendleton.
Allen VanNeiss Wilson	Indianapolis.
Allen J. Windle	Farmers' Institute.
Stephen Grant Wright	Perrysville.
John F. Yost	Lafayette. 91.

IRREGULAR AND SPECIAL STUDENTS.

Frank H. Ackerman Industrial Art and Mechanical Drawing.	Chauncey.
Mildred Adams Rhetoric, Wood-carving and Geometry.	Lafayette.
Laton Allen Drawing.	Bloomingdale.
Lilian Byrns Wood-carving, Drawing, German.	Lafayette.
Kate C. Cahalan Drawing, Clay-modeling.	Birmingham, Ala.
Mary A. Cahalan Clay-modeling.	Birmingham, Ala.
Florence Davidson History, Arithmetic and Wood-carving.	Hazleton.
Frederic Charles Demann Wood-carving.	Vevay.
Maud Benney Foster Botany.	Lafayette.
Olive Friedley Rhetoric, Wood-carving, Geometry.	Lafayette.
Jessie R. Jones Rhetoric, Drawing, Elocution.	Lafayette.
Mary Emily Jones Wood-carving.	Lafayette.
Fannie Louise Murray Rhetoric, Drawing, Wood-carving.	Lafayette.

Viola B. Salter Wood-carving.	La Salle, Ill.	
Stella Edith Smith History and Wood-carving.	Battle Ground.	
Mattie B. Snider Elocution.	Chalmers.	
Sarah Belle Tevis Drawing.	Tipton.	
Lizzie A. Tevis Wood-carving.	Tipton.	18

SCHOOL OF PHARMACY.

SENIORS.

Millard Caldwell	Hartford City.	
William Hartley Dickinson	Chicago, Ill.	
Charles Luther Hackett	Roanoke.	
William McOwen Ross	Richmond.	
Albert Warren Shoup	Lafayette.	5

JUNIORS.

Charles Eugene Belt	Detroit, Mich.	
Perry Oliver Brucker	Tell City.	
Peter Herman Fetters	Goshen.	
Eugene R. Glover	Terre Haute.	
Spencer John Hunt	Elston.	
Samuel Kennedy	Shelbyville.	
George Morrison	Shelbyville.	
Stephen Newby	Xenia.	
Hal Davenport Ridgely	Indianapolis.	
Ezra Franklin Scheddell	Crown Point.	
Edward Henry Schmidt	Indianapolis.	
William Harrison Studley	Appleton, Wis.	
William Hunter Vawter	Lafayette.	
John Marion Westfall	Burton.	14

PREPARATORY CLASS.

REGULAR.

Noah Adair	Perkinsville.
Stephen Aiken	Chauncey.
Amoranda Allison	Chauncey.
Della Anson	Lafayette.
Lizzie Beard	Burton.
Samuel Beard	Burton.
North Bishop	Rockfield.
Elmora Bledsoe	Francesville.
Albert Brothers	New Paris.
Thomas Enoch Brown	Burton.
Willie Dale Browning	Lafayette.
George Bryant	Chauncey.
Claude Sonnefield Burr	Anderson.
Maud Alice Burroughs	Lafayette.
Ben Butterworth	Laporte.
Joseph Callahan	Lafayette.
Charles Campbell	Kirkpatrick.
James Dennis Carson	Mt. Carmel.
Albert Caulkins	Lafayette.
Clarence Chenoweth	Chauncey.
Orra Belle Clevinger	Battle Ground.
Oliver Morton Coffin	Westland.
Charles Franklin Cooley	Lafayette.
John Clinton Cory	Anderson.
Edward Clarence Crider	Buck Creek.
Griffith Davis	Wolcott.
Frederic Emory Davis	Lafayette.
Roslindia Davisson	Octagon.
Louis Morrison Dunlap	Perrysville.
Eugene Edgar Earhart	Lafayette.
Adelbert Bernardo Emshwiller	Hartford City.
Emma Felbaum	Dayton.

Mettie Vance Fidler	Culver.
Finis Fouts	Deer Creek.
Jacob Richard Francis	Halstead, Kan.
Omer Frash	Akron.
Otho Gorsline	Battle Ground.
James Wesley Graves	Lafayette.
Lonnie Guion	Lafayette.
Sina Haller	Chauncey.
David Harshbarger	Raccoon.
Hattie Thayer Harter	Romney.
Mattie Haywood	Romney.
Edward Haywood	Romney.
Harry Hicks	North Vernon.
Anna Higgins	Lafayette.
Charles Ingersoll Hilligoss	LaPelle.
Daniel Bruce Hoffman	Monitor.
Kate Hougham	Perkinsville.
Frank Hougham	Perkinsville.
David Hostetter	Ladoga.
David Hurley	Lafayette.
John Shepherd Hussey	Chauncey.
George Lutellous Hussey	Chauncey.
Frank Blucher Jamison	Lafayette.
Mamie Jones	Chauncey.
Mary Dhee Jones	Lafayette.
William James Jones	Woodland, Ill.
William Kirk	Madison.
Harry Ivan Lahr	Lafayette.
Wilbert Elmore Lowman	Pettit.
Tillie Magovern	Chauncey.
John McClure Malsbary	Romney.
Erwin Marshall	Wawaka.
Ina Mary McClure	Newtown.
George John McGrath	Lafayette.
Ida Evalyn McKinnis	Otterbein.
Frank Gene Meloy	North Vernon.
Maggie Moore	Chauncey.
Charles Murray	Chauncey.
Ira Douglas Myers	Peru.

John Stanton Neese	Perkinsville.
Josie Northcutt	North Chauncey.
Levi Orville Oyler	Deer Creek.
John Wesley Parker	Eckhart Mines, Md.
Ella Payne	Lafayette.
Hugh Hanna Pierce	Lafayette.
Hanna Gertrude Powers	Otterbein.
William Quick	Carmel.
Luella Rhode	Rainsville.
Celia Rhode	Winthrop.
Horace James Robb	Philadelphia, Pa.
Howard Robertson	Guilford.
Susie Rognon	Jeffersonville.
John Martin Roseberry	Lafayette.
Robert Pearson Roseberry	Lafayette.
Mary Ross	Lafayette.
Joseph Ross	Lafayette.
Harvey Thomas Ruch	Elston.
Belle Salinger	Lafayette.
Robert William Sample	Lafayette.
Gustav August Schrader	Mt. Vernon.
Ed Vischer Severson	Chauncey.
Jessie Fremont Shortridge	Lafayette.
Anna Maud Shortridge	Lafayette.
Maggie Singley	Lafayette.
Richard Addison Smart	Lafayette.
Fred Snider	Chalmers.
Walter Irwin Snider	Chalmers.
Harry Milton Snodgrass	Lafayette.
Earl Eustis Stafford	Millville.
Clara Belle Stingle	Lafayette.
Daniel Storms	Stockwell.
Amanda Elinor Stout	Lafayette.
Lizzie Alla Timmons	Battle Ground.
John Thomas VanNatta	Otterbein.
John Walker	Shelbyville.
Christian Jonathan Wall	Burton.
Myra Whitsell	Octagon.

Charles Widolff	Yorkville.	
Fred Wilmot Willman.	Hartford City.	
Clarence Leroy Winters	Wolcott.	
Arthur Wellington.	Anderson.	
James Henry Wells.	Lafayette.	
Charles Augustus White	Perrysville.	
Aaron Yost.	Pettit.	
Robert Ellsworth Zinn	Fowler.	117

IRREGULAR.

Laura Belle Adams	Burton.
Katie Adams	Burton.
Ida May Anson	Lafayette.
Luther Bailey	Green Hill.
William Ball.	Lafayette.
Charles Bond	Webster.
Mary Casey.	Clark's Hill.
Margaret Olive Cooper	Battle Ground.
Jacob Burton Cunningham.	Lafayette.
Earl Dailey	Lebanon.
Ella Davis	Seafield.
Fred Dorner	Lafayette.
Charles Driscoll	Burton.
Alonzo Dunlavy	Fillmore.
Effie Dyer	Pittsburg.
Della Felix	Elston.
Carrie Gaylord.	Burton.
Henry Gerrish	Lowell.
Elwood Gray	Rainsville.
Nellie Hain	Burton.
Icy Dora Harvey	Lafayette.
Mary Fouts.	Deer Creek.
Luella Ilgenfritz	Battle Ground.
Jessie Augusta Jack	Lafayette.
Mabel La Baree	Clark's Hill.
Maud La Baree	Clark's Hill.

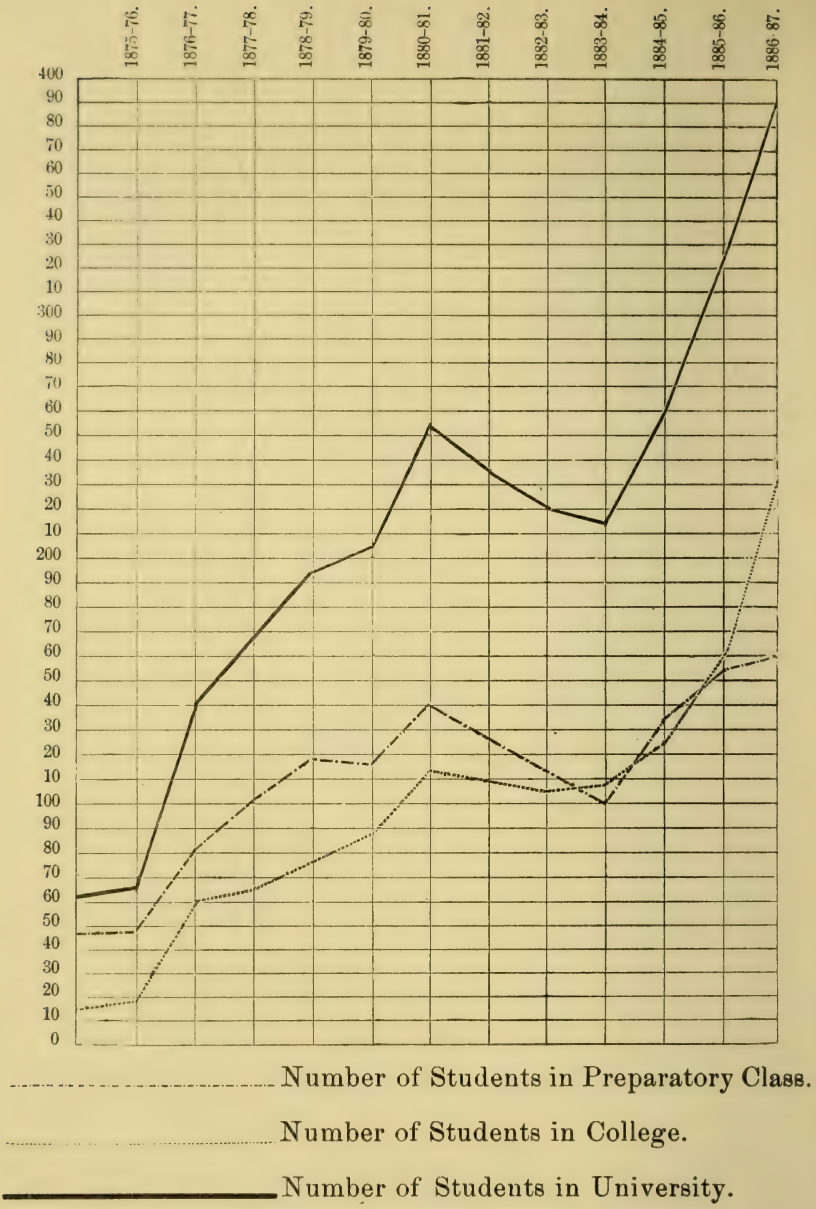


Diagram showing growth of Purdue University since its organization.

Elias Martin	Lafayette.	
Maude McBroom	Elston.	
Harry Lee Micheals	Wesley.	
Frank Moore	Lafayette.	
Robert Adams O'Neal	Lafayette.	
Sallie Olivia Oilar	Battle Ground.	
Doris Petitgean	Colburn.	
Robert Mauley Recobs	Tipton.	
Ella Slaughter	Lafayette.	
Charles Oliver Slaughter	Lafayette.	
David Snyder	Monroe City.	
Lizzie Steen	Battle Ground.	
George Edward Steen	Battle Ground.	
Charles Steen	Battle Ground.	
John Steen	Battle Ground.	
Victor Studley	Appleton, Wis.	
Frank Jennings Tyler	Lafayette.	
Minnie Woodhams	Green Hill.	
William Woodard	Chicago, Ill.	45

SUMMARY.

COLLEGE.

Post-Graduates	11	
Seniors	8	
Juniors	34	
Sophomores	49	
Freshmen	91	
Irregular and Special	18	
School of Pharmacy	19	
		230

PREPARATORY CLASS.

Regular	117	
Irregular	45	
		162
Total		392

COUNTIES REPRESENTED.

Names of counties represented by one or more students:

Allen,
Bartholomew,
Benton,
Boone,
Blackford,
Brown,
Carroll,
Cass,
Clark,
Clay,
Clinton,
Dearborn,
Decatur,
Delaware,
DeKalb,
Elkhart,
Fayette,
Fountain,
Franklin,
Fulton,
Gibson,
Grant,
Hamilton,
Hancock,
Henry,
Huntington,
Jay,
Jefferson,
Jennings,
Johnson,
Knox,
Lake,
LaPorte,
Lawrence,
Madison,
Marion,
Miami,
Montgomery,
Newton,
Noble,
Owen,
Perry,
Putnam,
Porter,
Posey,
Pulaski,
Randolph,
Ripley,
Rush,
Shelby,
St. Joseph,
Switzerland,
Tippecanoe,
Tipton,
Vanderb'rgh.
Vermillion.
Vigo,
Warren,
Wabash,
Wayne,
White,
Whitley,
Total, 62.

STATES REPRESENTED.

The States represented in the Institution during the present year are, as follows: Alabama, Illinois, Indiana, Kansas, Minnesota, Massachusetts, Maryland, Ohio, Pennsylvania, Tennessee, West Virginia and Wisconsin. Total, 12.

ALUMNI.

1875.

John Bradford Harper, B. S.; Indianapolis.

1876.

Charles John Bohrer, B. S.; A. C., 1887; Denver, Colo.

1877.

Franklin Pierce Clark, B. S.; A. C., 1878; North Baltimore, O.
William King Eldridge, B. S.; C. E., 1878; Indianapolis.

1878.

Jesse Harvey Blair, B. S.; Lebanon.
  LL. B., Ind. Law Sch., 1883.
Eulora Miller, B. S.; Lafayette.
Daniel William Noble, B. S.; Indianapolis.
John Crothers Vannatta, B. S.; Kentland.

1879.

Nettie Derexa Morey, B. S.; Chicago, Ill.
Guilford Lawson Spencer, B. S.; A. C.; Washington, D. C.
  M. S., Mich. Uv., 1882.

1880.

James Nelson Bartholomew, B. S.; San Alamos, Cal.
  M. D., Med. Col. of Ohio, 1882.
Margaret Jane Erisman, B. S.; Lafayette.
Annie Henderson, B. S.; Lafayette.
Carrie Henderson, B. S.; Lafayette.
Lewis Owens, B. S.; Chalmers; died March, 1881.
Worth Reed, B. S.; Chauncey.
Lillian Gray Smith, B. S.; Lafayette.

1881.

Mamie Emma Fraser, B. S.; Peoria, Ill.
John Martin McBroom, B. S.; Hillsboro.
William Buchanan Sinclair, B. S.; San Pierre.
Eva Wilson Smith, B. S.; Lafayette.
Jessie Florence Thompson, B. S.; Lafayette.
Albert King Warren, B. S.; Lebanon.
Thomas Perkins Weir, B. S.; Kansas City, Mo.
William Emerson White, B. S.; Winfield, Kan.

1882.

Philip Doddridge Alexander, B. S.; Mount Vernon.
Henry Abraham Beck, B. S.; Indianapolis.
Maggie Janet Chapman, B. S.; Topeka, Kan.
William Edgar Driscoll, B. S.; Cowan.
  M. D., Med. Col. of Ohio, 1886.
Elwood Mead, B. S.; Fort Collins, Colo.
  C. E., Iowa Agr. Col., 1883.
Walter Henry Peters, B. S.; A. C.; Chauncey.
  M. D., Med. Col. of Ohio, 1886.
Edward Ewing Sickler, B. S.; Indianapolis.
Edward Sabin White, B. S.; Lafayette.
Henry Augustus Huston, A. C.; Lafayette.
  A. M., Bowd. Col., 1879.
Charles A. Crampton, A. C.; Fort Collins, Colo.
  Ph. C., Mich. Uv., 1882.

1883.

Kate Luvenia Bishop, B. S.; Peru.
Frank Vincent Broadbent, B. S.; Washington, D. C.
  M. S., Mich. Uv., 1884.
Carrie Avanelle Cory, B. S.; Chauncey.
Elroy A. Dillon, B. S.; Chicago, Ill.
Anna Laura Foster Quick, B. S.; Columbus.
Charles Haskel Henderson, B. S.; Lafayette.
Harry G. Lutz, B. S.; Wea.
Walter Stevens Ratliff, B. S.; Richmond.
Otis S. Roberts, B. S.; Oxford.
Ida Virginia Smith, B. S.; Lafayette.
Lura Louise Thompson, B. S.; Lafayette.

George King Throckmorton, B. S.; Lafayette.
James Milo Waugh, B. S.; Crawfordsville.
Emory Calvin White, B. S.; Cincinnati, O.
William Edward White, B. S.; Oxford.

1884.

Charles Denman Keys, B. S.; Peru.
Fanny Bennett Lutz, B. S.; Wea.
Flora Jane Lutz, B. S.; Wea.
S. A. D. S. Lyons, B. S.; Boundary City.
George Washington McCoy, B. S.; Vincennes.
Albert Brown Porter, B. S.; Richmond.
Walter J. Quick, B. S.; Columbus.
Harry Elisha Rank, B. S.; Chauncey.
Elizabeth Shoemaker, B. S.; Chauncey.
Hattie Shultz VanNatta, B. S.; Fowler.

1885.

Perry Davis Creager, B. S.; Portland.
William Arthur Fankboner, B. S.; Marion.
Eli K. Hoober, B. S.; Springport.
Effie Jane Lutz, B. S.; Wea.
J. D. Moor, B. S.; Elizabethtown.
Alfred Nelson, B. S.; White Rock, Minn.; died March, 1886.
Charles L. Ratliff, B. M. E.; New Mexico.
Ella May Stockton, B. S.; Lafayette.
Marshall Thatcher, B. S.; Scircleville.
Howard Vanderbilt, B. S.; Chicago.
Henry Heath Vinton, B. S.; Lafayette.

1886.

Anna Embree Baker, B. S.; Stockwell.
Bessie Baker, B. S.; Stockwell.
James Franklin Bruff, B. M. E.; Chicago.
Ernest Vernon Claypool, B. S.; Brookston.
Orloff Field Dragoo, B. S.; Muncie.
Maude Richmond Henderson, B. S.; Lafayette.
Arthur Lionel King, B. M. E.; Avilla.

Scott Mead, B. M. E.; Denver, Colo.
Shrewsbury Beauregard Miller, B. M. E.; Charleston, W. Va.
Mary Florence Murdock, B. S.; Wea.
Morgan Gorrell Quick, B. S.; Columbus.
Edward Newton Reser, B. S.; Wea.
George Wilkinson Ross, B. S.; Raub.
Joseph Swearingen, B. M. E.; Blountsville.
Mary Margaret VanNatta, B. S.; Fowler.
Samuel Turner Virden, B. S.; Monticello.

GRADUATES OF THE SCHOOL OF PHARMACY.

1886.

Ernest G. Eberhardt, Ph. G.; Indianapolis.
Manuel Jay, Ph. G.; Stockwell.
John Kennedy, Ph. G.; Vincennes.
Edwin J. Mowry, Ph. G.; Oskaloosa, Iowa.
Louis H. Schulmeyer, Ph. G.; Indianapolis.
Bert D. Westenfelder, Ph. G.; Indianapolis.
Emory James Yeager, Ph. G.; Lafayette. 7

1887.

Millard Caldwell, Ph. G.; Hartford City.
William Hartley Dickinson, Ph. G.; Chicago, Ill.
Charles Luther Hackett, Ph. G.; Roanoke.
William McOwen Ross, Richmond.
Albert Warren Shoup, Ph. G.; Lafayette. 5

COURSES OF STUDY.

PURDUE UNIVERSITY is a college of Science, Agriculture, and Mechanic Arts. It embraces five special schools and a Preparatory Class, as follows:

I. School of Agriculture and Horticulture.
II. School of Mechanics and Engineering.
III. School of Science.
IV. School of Industrial Art.
V. School of Pharmacy.
VI. Preparatory Class.

The courses of instruction in the first four special schools are so arranged that they include, with few exceptions, the same instruction in general science, mathematics, English, history, political and mental science, and industrial drawing. In addition to these branches common to the four schools, the School of Agriculture and Horticulture adds four years of instruction and practice in agriculture and horticulture; the School of Mechanics and Engineering, two years of instruction and practice in practical mechanics and two years of mechanical engineering; the School of Science, four years in laboratory work in the natural and physical sciences; and the School of Industrial Art, four years of instruction and training in industrial art.

Students in each of these schools are now required to engage in an average of two hours daily of *hand work*, including laboratory practice, shop work, field work, etc.

The School of Pharmacy affords instruction in chemistry, pharmacy, materia medica, botany, etc., with a large amount of laboratory practice for two annual sessions of five months each.

The Preparatory Class offers a thorough drill in the common English branches, which is quite complete in itself; it is designed to prepare students to enter either of the first four schools of the University.

The daily programme and the courses of study are given on the following pages. The figures indicate the number of exercises per week.

All selections for electives must be made under advice of the Faculty. No new classes will be formed of less than three students.

SPECIAL ANNOUNCEMENT.

The Trustees of Purdue University hereby announce that they have decided to establish at Purdue University a School of Civil Engineering and a School of Domestic Economy, and to afford additional instruction in Veterinary Science.

1. THE SCHOOL OF CIVIL ENGINEERING.

For the first two years the instruction and practice in this School will be identical with the course of instruction and practice in the School of Mechanics and Engineering as shown in this catalogue, except that a less amount of shop work will be required during the Sophomore year and a larger amount of field practice in surveying will be afforded. During the last two years of the course the instruction and practice will be identical with the instruction and practice in the School of Mechanics and Engineering, except that work exclusively relating to Civil Engineering will be substituted for work exclusively relating to Mechanical Engineering.

2. THE SCHOOL OF DOMESTIC ECONOMY.

This School will afford instruction in Rhetoric, English Literature, French or German, Industrial Drawing, General Science, Mathematics, Political and Mental Science and in Domestic Economy. This latter subject will include instruction in Applied Housekeeping and in the Arts and Sciences especially relating thereto.

3. INSTRUCTION IN VETERINARY SCIENCE.

In addition to the instruction in Veterinary Hygiene already provided for in the School of Agriculture, a special course of lectures on Veterinary Science, including Laboratory practice, will be given during the Fall or Winter Term by a competent veterinary surgeon.

SCHOOL OF AGRICULTURE.

FRESHMAN YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M.	3:30 P. M. TO 5:30 P. M.
1st Term, 15 w.	Farm Stock (8 w.). 5 Farm Crops (7 w.). 5	Model-Drawing in Outline. 5	Rhetoric. 3 Elocution. 1	Geometry. 5		
2d Term, 12 w.	Shop-Work. 4		Rhetoric. 3 Elocution. 1	Geometry. 5	Stock-Breeding. 5	
3d Term, 11 w.	Shop-Work. 3		Rhetoric. 3 Stock-Breeding. 2	Algebra. 5	Botany. 5	

SOPHOMORE YEAR.

1st Term, 15 w.	English Literature. 3	Higher Algebra (12 w.). 5 Trigonometry (3w.) 5	†Farm-Management (7 w.). 2½	Physics. 4	†Farm Implements (8 w.). 2½ †Botany. 2½	
2d Term, 12 w.	Eng Literature(4w.) 3 History (8 w.). 3 Elocution (8 w.). 1	Trigonometry. 5	†Farm-Management. 2½	Physics. 4	†Botany (4 w.) 2½ †Zoölogy (8 w.) 2½	
3d Term, 11 w.	History. 3 Elocution. 1	Surveying. 5	†Vegetable-Gardening. 2½	Physics. 4	†Zoölogy. 2½	

†Alternate days.

JUNIOR YEAR.

1st Term, 15 w.	Fruit-Culture (8 w.) 5	*Elective. 4	Chemistry. 5	Chemistry. 3	Elective. 4	‖Farm-Drainage (7 w.). 5
2d Term, 12 w.	Economic Botany. 5	Elective. 4	Chemistry. 5	Chemistry. 3	Elective. 4	
3d Term, 11 w.	‖Economic Entomology. 5	Elective. 4	Agricultural Chemistry. 5	Agricultural Chemistry. 3	Elective. 4	

‖ With occasional field work.

*Juniors must choose work to occupy the time marked *elective* from the following subjects: Botany, Zoölogy, Physics, Shop-work (first half year), History (first half year), History of English Language (second half year).

SENIOR YEAR.

1st Term, 15 w.	**Elective. 4	Elective. 4	Human Physiology. 5	Veterinary Hygiene. 4	
2d Term, 12 w.	Elective. 4	Elective. 4	Human Physiology (4 w.). 5 Geology (8 w.). 5	Principles of Agriculture, Feeding and Dairying. 4	
3d Term, 11 w.	Elective. 4	Elective. 4	Geology. 5	Landscape-Gardening and Forestry. 4	

**Seniors must choose work to occupy the time marked *elective* from the following subjects: Botany, Zoölogy, Chemistry, Literature, German, Psychology (first half year), Political Economy (second half year).

SCHOOL OF MECHANICS AND ENGINEERING.

FRESHMAN YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M. OR 3:30 P. M. TO 5:30 P. M.
1st Term, 15 w.	Wood-working Tools. Elements of Construction. 3 Mechanical Drawing. 2	Model-Drawing in Outline. 5	Rhetoric. 3 Elocution. 1	Geometry. 5	Bench-Work in Wood. Wood-Turning. 5
2d Term, 12 w.	Theory of Pattern-Making. Hand Tools for Metal. 3 Mechanical Drawing. 2	Mechanical Drawing. 2	Rhetoric. 3 Elocution. 1	Geometry. 5	Pattern-Making. 4 Molding and Casting. 1
3d Term, 11 w.	Mechanical Drawing. 5	Mechanical Drawing. 5	Rhetoric. 3	Algebra. 5	Pattern-Making. 4 Molding and Casting. 1

SOPHOMORE YEAR.

1st Term, 15 w.	English Literature. 3	Higher Algebra (12 w.). 5 Trigonometry (3 w.) 5	Mechanical Drawing. 5	Physics. 4	Iron and Steel Forging. 5
2d Term, 12 w.	Eng. Literature (4 w.). 3 History (8 w.). 3	Trigonometry. 5	Theory of Machine Work. 2 Mechanical Drawing. 3	Physics. 4	Machine-Work. Vise-Work in Iron. 5
3d Term, 11 w.	History. 3	Surveying. 5	Machines and Machine Work. 2 Mechanical Drawing. 3	Physics. 4	Machine-Work. Vise-Work in Iron. 5

JUNIOR YEAR.

1st Term, 15 w.	Analytical Geometry. 5	Descriptive Geometry. 4 Heat. 1	Chemistry. 5	Chemistry. 3	Descriptive Geometry. 3 Heat. 1
2d Term, 12 w.	An. Geometry (5 w.). 5 Calculus (7 w.). 5	Principles of Mechanism. 4 Heat. 1	Chemistry. 5	Chemistry. 3	Mechanical Drawing. 1 Heat. 1
3d Term, 11 w.	Calculus. 5	Principles of Mechanism. 2 Metallurgy. 3	Mechanical Drawing. 3 Metallurgical Chemistry. 2	Mechanical Drawing. 3	Metallurgical Chemistry. 3 Mechanical Drawing. 1

SENIOR YEAR.

1st Term, 15 w.	Analytical Mechanics. 5	*Elective. 4	Elective. 2	Steam Engine. 5	Mechanical Drawing and Experimental Work in Engineering. 5
2d Term, 12 w.	An. Mechanics (4 w.). 5 Political Economy (8 w.). 4	Elective. 4	Elective. 2	Steam Boilers (6 w.). 5 Strength of Materials (6 w.). 5	Mechanical Drawing and Experimental Work in Engineering. 5
3d Term, 11 w.	Political Economy. 4	Elective. 4	Elective. 2	Machine Design. 5	Mechanical Drawing and Experimental Work in Engineering. 5

* Seniors must elect one of the following: Literature, German, or Applied Electricity.

SCHOOL OF SCIENCE.

FRESHMAN YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 2:30 P. M.	2:30 P. M. TO 3:30 P. M.
1st Term. 15 w.		Model-Drawing in Outline. 5	Rhetoric. 3 Elocution. 1	Geometry. 5	French or German. 5	
2d Term, 12 w.		Linear Perspective. 5	Rhetoric. 3 Elocution. 1	Geometry. 5	French or German. 5	
3d Term, 11 w.		Orthographic Projection. 5	Rhetoric. 3 French or German. 2	Algebra. 5	Botany. 5	

SOPHOMORE YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 2:30 P. M.	2:30 P. M. TO 3:30 P. M.
1st Term. 15 w.	English Literature. 3	Higher Algebra (12 w.). 5 Trigonometry (3 w.) 5	French or German. 2½	Physics. 4	Botany. 2½	
2d Term, 12 w.	English Literature (4 w.). 3 History (8 w.). 3 Elocution (8 w.). 1	Trigonometry. 5	French or German. 2½	Physics. 4	Botany (4 w.). Zoölogy (8 w.). 2½	
3d Term, 11 w.	History. 3 Elocution. 1	Surveying. 5	French or German. 2½	Physics. 4	Zoölogy. 2½	

JUNIOR YEAR.

1st Term, 15 w.	Analytical Geometry. 4	*Elective. 4	Chemistry. 5	Chemistry. 3	Elective. 4
2d Term, 12 w.	Analytical Geometry (5 w.). 4 Calculus (7 w.), or Literature (7 w.). 4	Elective. 4	Chemistry. 5	Chemistry. 3	Elective. 4
3d Term, 11 w.	Calculus or Literature. 4	Elective. 4	Applied Chemistry. 5	Applied Chemistry. 3	Elective. 4

* Juniors must elect two of the following, viz.: 1. History and History of English Language. 2. Physics. 3. Botany. 4. Zoölogy.

SENIOR YEAR.

1st Term, 15 w.	Psychology. 4	*Elective. 4		Human Physiology. 5	Elective. 4
2d Term, 12 w.	Psychology (4 w.). 4 Political Economy (8 w.). 4	Elective. 4		Human Physiology (4 w.). 5 Geology (8 w.). 5	Elective. 4
3d Term, 11 w.	Political Economy. 4	Elective. 4		Geology. 5	Elective. 4

* Seniors must elect two of the following, viz.: 1. Physics. 2. Chemistry. 3. Botany. 4. Zoölogy. 5. Literature.

SCHOOL OF INDUSTRIAL ART.

FRESHMAN YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 2:30 P. M.	2:30 P. M. TO 3:30 P. M.
1st Term, 15 w.		Model-Drawing in Outline. 5	Rhetoric. 3 Elocution. 1	Geometry. 5	French or German. 5	
2d Term, 12 w.		Linear Perspective. 5	Rhetoric. 3 Elocution. 1	Geometry. 5	French or German. 5	
3d Term, 11 w.		Orthographic Projection. 5	Rhetoric. 3 French or German. 2	Algebra. 5	Light and Shade. 5	

SOPHOMORE YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 2:30 P. M.	2:30 P. M. TO 3:30 P. M.
1st Term, 15 w.	English Literature. 3	Higher Algebra (12 w.). 5 Trigonometry (3 w.) 5	German or French. 2½	Physics. 4	Light and Shade. 2½	
2d Term, 12 w.	Eng. Lit (4 w.). 3 History (8 w.). 3 Elocution (8 w.). 1	Trigonometry. 5	German or French. 2½	Physics. 4	Color. 2½	
3d Term, 11 w.	History. 3 Elocution. 1	Art Work. 5	German or French. 2½	Physics. 4	Color. 5	

JUNIOR YEAR.

1st Term, 15 w.	Analytical Geometry. 4	History. 4	Chemistry. 5	Chemistry. 3	Wood-Carving or Clay-Modeling, and Hist. Ornament. 5
2d Term, 12 w.	Anal. Geometry (5 w.). 4 Calculus or Literature (7 w.). 4	History (4 w.). 4 History English Language (8 w.). 4	Chemistry. 5	Chemistry. 3	Wood-Carving or Clay-Modeling, and Hist. Ornament. 5
3d Term, 11 w.	Calculus or Literature. 4	History English Language. 4	Applied Chemistry. 5	Applied Chemistry. 3	Wood-Carving or Clay-Modeling, and Hist. Ornament. 5

SENIOR YEAR.

1st Term, 15 w.	Psychology. 5		Literature or Art Work. 4	Human Physiology. 5	Wood-Carving or Clay-Modeling and Decorative Design. 4
2d Term, 12 w.	Psychology (4 w.). 5 Political Economy (8 w.). 5		Literature or Art Work. 4	Human Physiology (4 w.). 5 Geology (8 w.). 5	Wood-Carving or Clay-Modeling and Decorative Design. 4
3d Term, 11 w.	Political Economy. 5		Literature or Art Work. 4	Geology. 5	Wood-Carving or Clay-Modeling and Decorative Design. 4

AGRICULTURAL HALL.

SCHOOL OF AGRICULTURE.

The course of study in this school is designed to prepare young men for agricultural pursuits. The purpose is not to make farmers and fruit growers merely, but intelligent citizens as well. Hence, a wide range of instruction is afforded in both general and special subjects. Those subjects which relate more directly to agriculture are sufficiently outlined below to indicate the nature and scope of the instruction given.

As far as possible the special subjects are taken up at the most favorable time of the year, and in their proper relation to the purely scientific studies. The class-room instruction is supplemented by field and shop work.

The course of study is, as follows:

FRESHMAN YEAR.

AGRICULTURE.—Twenty-seven weeks, five hours per week; and eleven weeks, two hours per week. **Farm Stock.**—History and characteristics of the various improved breeds of domestic animals, with their adaptations to soil, climate and the various purposes of the breeder. **Farm Crops.**—Staple and special; planting, cultivating and harvesting; feeding and selling; reasons for change of crops; crop rotations adapted to the different soils and climatic conditions. **Stock Breeding.**—Principles underlying the art; laws of heredity; relation of cross-breeding and in-breeding to constitutional vigor, prepotency, etc.; means of improving our domestic animals.

INSTRUCTOR, *Prof. Latta.*

BOTANY.—Eleven weeks, ten hours per week. See Botany, page 52.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 65.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 65.

RHETORIC.—Thirty-eight weeks, three hours per week. See Literature and History, page 63.

ELOCUTION.—Twenty-seven weeks, one hour per week.

DRAWING.—Fifteen weeks, five hours per week. See **Model Drawing in Outline**, page 59.

SHOP-WORK.—Twelve weeks, eight hours per week; and eleven weeks, three hours per week. See Shop-work (a), page 42.

SOPHOMORE YEAR.

AGRICULTURE.—Eight weeks, ten hours per week; and nineteen weeks, two and one-half hours per week. **Farm Implements.**—Study of their mechanism, strength, and durability, with practice in taking them apart, putting them together, and adjusting them for use. **Farm Management.**—Various questions relating to the care of crops, stock, manures, buildings, fences, implements, etc.; permanent improvements; farm accounts; buying and selling.

INSTRUCTOR, *Prof. Latta.*

HORTICULTURE.—Eleven weeks, two and one-half hours per week. **Vegetable Gardening.**—Preparation of soil, planting, transplanting, cultivation, harvesting, marketing and winter preservation.

INSTRUCTOR, *Prof. Troop.*

BOTANY.—Nineteen weeks, five hours per week. See Botany, page 53.

ZOOLOGY.—Nineteen weeks, five hours per week. See Zoölogy, page 53.

PHYSICS.—Thirty-eight weeks, four hours per week. See Physics, page 52.

ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 65.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 66.

SURVEYING.—Eleven weeks, five hours per week. See Mathematics, page 66.

ENGLISH LITERATURE.—Nineteen weeks, three hours per week. See Literature and History, page 63.

HISTORY.—Nineteen weeks, three hours per week. See Literature and History, page 63.

ELOCUTION.—Nineteen weeks, one hour per week.

JUNIOR YEAR.

AGRICULTURE.—Seven weeks, five hours per week. **Farm Drainage.**—Location, planning, leveling, construction and repairing of farm-drains; sanitary drainage of farm buildings; road drainage.

INSTRUCTOR, *Prof. Latta.*

HORTICULTURE.—Twenty weeks, five hours per week. **Fruit Culture.**—Budding, grafting, layering and pruning; care and cultivation of fruit trees and vines; harvesting, packing, storing and marketing of fruits; orchard sites, etc.

INSTRUCTOR, *Prof. Troop.*

ECONOMIC BOTANY.—Study of noxious and useful plants of the farm, their characteristics, propagation, rate of increase and conditions of growth; time and manner of destroying weeds, etc.

ECONOMIC ENTOMOLOGY.—Eleven weeks, five hours per week. Study of beneficial and injurious insects; means of preventing or mitigating insect ravages.

INSTRUCTOR, *Prof. Troop.*

CHEMISTRY.—General Chemistry, twenty-seven weeks, eight hours per week; and Agricultural Chemistry, eleven weeks, eight hours per week. See Chemistry, page 54.

ELECTIVE STUDIES.

Juniors must select work to occupy the time marked elective, in the daily programme, from the following subjects:

Botany, Zoölogy, Physics, Shop-work (first half year), History (first half year), History of the English Language (second half year).

SENIOR YEAR.

AGRICULTURE.—Twenty-seven weeks, four hours per week.

Veterinary Hygiene.—Symptoms, causes, preventives and treatment of diseases of farm stock; sanitary arrangement of farm buildings; disinfection.

INSTRUCTOR, ...

Principles of Agriculture.—Effects of tillage, manures, mulching, drainage, irrigation; nature and needs of soils and crops; soil exhaustion, renovation of soils, etc. **Principles of Feeding and Dairying.**—Laws of animal nutrition; feeding, rations for young, fattening, working and dairy animals; effects of dry, succulent, concentrated and bulky foods; economy in feeding; effects of food, exposure and treatment on the quantity and quality of milk; milk setting, butter and cheese-making; utilization of the by-products of the dairy.

INSTRUCTORS, *Profs. Troop and Latta.*

HORTICULTURE.—Eight weeks, five hours per week. **Landscape Gardening.**—Laying out and ornamentation of grounds with trees, shrubs, flowers, lawns, etc. **Forestry.**—Effects of forests upon climate; reasons for forest-tree planting; trees for various locations and methods of growing the same.

INSTRUCTOR, *Prof. Troop.*

HUMAN PHYSIOLOGY.—Nineteen weeks, five hours per week. See Human Physiology, page 56.

GEOLOGY.—Sixteen weeks, five hours per week. See Geology, page 56.

ELECTIVE STUDIES.

Seniors must select work to occupy the time marked elective in the daily programme from the following subjects:

Botany, Zoölogy, Chemistry, Literature, German, Psychology (first half year), Political Economy (second half year).

MEANS OF ILLUSTRATION.

The college campus, greenhouse, nursery, orchard, experiment farm, and meteorological station afford facilities for practically illustrating the class-room instruction. The experimental grounds contain many varieties of grapes and small fruits, grains and grasses, which furnish ample means for observation and training in those branches especially adapted to the farmer and fruit grower.

The improved breeds of cattle on the College Farm, and in the vicinity of Lafayette, afford good opportunity for illustrating the class-room instruction on Live Stock and Stock Breeding. Occasional excursions are made to visit herds in this neighborhood. As far as practicable, labor will be furnished to students taking the Agricultural Course whenever it is desired. Students receive pay for all work not instructional.

SCHOOL OF MECHANICS AND ENGINEERING.

The instruction in this school is arranged to respond to the present strong and growing demand for young men who understand practical mechanical construction, who are skilled in the use of tools, and who have been given such additional and advanced training that they may become, not merely constructors, but also inventors and designers of machinery.

During the first two years special prominence is given to shop-work and the studies pertaining thereto, including instruction and practice in those underlying principles of the common trades, which, when taken together, form a basis for all lines of special mechanical work.

The last two years are specially devoted to the theory and practice of mechanical engineering.

The course of instruction is as follows:

FRESHMAN YEAR.

TECHNICAL INSTRUCTION. — Twenty-seven weeks, three hours per week. Under this head are comprised:

(a) *Lectures* developing the character of cutting edges for wood, the adjustment of different tools and the methods by which they are kept in order; also lectures on the shrinkage and warping of woods; different forms, adaptation and relative strength of joints.

(b) *Lectures* on wood-working machines, including rotary and traverse planers; circular, scroll and band saws; and lathes and lathe attachments.

(c) *Lectures* on pattern-making, molding and casting.

INSTRUCTOR, *Prof. Goss.*

MECHANICAL DRAWING.—Fifteen weeks, seven hours per week; twelve weeks four hours per week; and eleven weeks, ten hours per week.

(a) *Model-drawing in outline*, see Industrial Art, page 59.

(b) *Drawings from copy* of the details of machines.

(c) *Drawings* for built-up pulley patterns, pipe bends, laggings, sweeps, patterns for sectional molding, and for other work of like character that may be done in the shop.

INSTRUCTORS, *Profs. Thompson and Goss.*

SHOP-WORK.—Thirty-eight weeks, ten hours per week.

(a) *Exercises* in planing, sawing, rabbeting, ploughing, notching, splicing, mortising, tenoning, dovetailing, framing, paneling, and in other work involving the common carpenter tools.

(b) *Exercises* in circular sawing, scroll sawing and turning.

(c) *Exercises* in pattern-making, including patterns and core boxes for pulleys, gears, columns, and pipe joints; complete sets of patterns for one or more machines are made by every class.

(d) *Exercises* in core-making, mold-making and casting; also in the management of cupola furnace and crucible furnace in melting iron and brass.

INSTRUCTOR, *Mr. Golden.*

RHETORIC.—Twenty-seven weeks, three hours per week; and eleven weeks, three hours per week. See Literature and History, page 63.

ELOCUTION.—Twenty-seven weeks, one hour per week.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 65.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 65.

SOPHOMORE YEAR.

TECHNICAL INSTRUCTION.—Twenty-three weeks, two hours per week.

(a) *Lectures* on the management of steel in forging, hardening, tempering and annealing.

(b) *Lectures* on hand-tools for metal.

(c) *Lectures* on machines and machine work.

INSTRUCTOR, *Prof. Goss.*

MECHANICAL DRAWING.—Fifteen weeks, five hours per week; twelve weeks, three hours per week; and eleven weeks, four hours per week.

(a) *Drawings* to scale from parts of actual machines.

(b) *Ink-shading and tinting.* The representation of flat and curved surfaces by ink tints, and of engineering materials by colors.

INSTRUCTOR, *Prof. Goss.*

SHOP-WORK.—Thirty-eight weeks, ten hours per week.

(a) *Iron-forging*, including exercises in heating, bending, drawing, upsetting, welding, annealing and case-hardening. About forty forgings are made, representing a large variety of operations.

(b) *Steel-forging*, including the making and tempering of punches, drills, chisels, machine cutting-tools, gravers and springs.

(c) *Exercises* in vise work in iron, including surface chipping, key-seating, surface-filing, squaring and fitting, round-filing, sawing, scraping and polishing.

(d) *Machine work* in metals, including exercises in turning, planing, slotting, drilling, boring, fluting, etc. This practice is given in the construction of complete machines and appliances.

INSTRUCTOR, *Mr. Turner.*

ENGLISH LITERATURE.—Nineteen weeks, three hours per week. See Literature and History, page 63.

HISTORY.—Nineteen weeks, three hours per week. See Literature and History, page 63.

PHYSICS.—Thirty-eight weeks, four hours per week. See Physics, page 52.

HIGHER ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 65.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 66.

SURVEYING.—Eleven weeks, five hours per week. See Mathematics, page 66.

JUNIOR YEAR.

DESCRIPTIVE GEOMETRY.—Fifteen weeks, ten hours per week. Instruction and practice in the methods of representing, by drawings, all geometrical magnitudes and the solution of problems relating to these magnitudes in space. This subject, including the principles of shades, shadows and perspective, is taught by lecture, the time allotted being equally divided between instruction in the class-room and the practical solution of original problems in the drawing-room.

INSTRUCTOR, *Prof. Stahl.*

PRINCIPLES OF MECHANISM.—Twelve weeks, four hours per week, and eleven weeks, two hours per week. Under this head are studied the principles underlying the action of the elementary combinations of which all machines are composed. The communication of motion by gear-wheels, belts, cams, screws and link-work, the various means of producing definite changes of velocity, the different automatic feed motions, epicyclic trains, parallel motions, the principles of quick return movements, and the manner of designing trains of mechanism for various purposes, all form part of this subject.

INSTRUCTOR, *Prof. Stahl.*

MECHANICAL DRAWING—Twenty-three weeks, eight hours per week. The work in mechanical drawing is directly supplemental to the instruction in Principles of Mechanism.

The work includes drawings of epicycloidal and involute gear-wheels, drawings of pin-gearing, bevel-gearing, lobed wheels, cams, endless screws, and other elementary combinations. These drawings are not in any sense copies, being made by each student to correspond with data furnished him by the instructor. During the spring term each student makes complete working drawings of some existing machine, obtaining for himself all necessary data by direct measurement from the machine.

INSTRUCTOR, *Prof. Stahl.*

METALLURGY.—Eleven weeks, three hours per week. The various fuels and refractory materials are first taken up, and their special fitness for different metallurgical operations is pointed out. The characteristics, composition and location of the principal iron ores are next examined, after which all the various operations in the manufacture and refining of iron and steel are explained in detail, according to the most modern practice. See also Metallurgical Chemistry, page 54.

INSTRUCTOR, *Prof. Stahl.*

CHEMISTRY.—General Chemistry, twenty-seven weeks, eight hours per week; and Metallurgical Chemistry, eleven weeks, eight hours per week. See Chemistry, page 54.

HEAT.—Twenty-seven weeks, three hours per week. Nature and effects of heat, temperature, measurement of heat, expansion, liquefaction, evaporation, latent heat, specific heat, conduction, convection, relation between heat and mechanical energy, principles of thermo-dynamics. The instruction will be given partly in the class-room and partly by experimental work in the Physical Laboratory.

INSTRUCTOR, *Prof. Huston.*

ANALYTICAL GEOMETRY.—Twenty weeks, five hours per week. See Mathematics, page 66.

CALCULUS.—Eighteen weeks, five hours per week. See Mathematics, page 66.

SENIOR YEAR.

ANALYTICAL MECHANICS.—Nineteen weeks, five hours per week. The work in this subject consists of mathematical investigations concerning the action of forces on solids, liquids and gases.

INSTRUCTOR, *Prof. Stahl.*

STEAM ENGINE.—Fifteen weeks, five hours per week. The work begins with the study of the general theory of the steam engine and of its efficiency as a prime mover, including discussions of the laws of thermo-dynamics, the expansion of steam, jacketing, cushioning, action of fly-wheels, effect of clearance, effect of condensation in cylinder, and other similar subjects. The relative advantages of simple and compound, condensing and non-condensing engines, the principal types of modern engines, the various valve and cut-off motions, the method of determining the size of an engine to do any required work, and of calculating the sizes of all its parts, are all explained. Special attention is given to the steam engine indicator, and the student becomes thoroughly familiar with its use and the manner of interpreting its indications. Each student participates in a number of complete engine tests, determining the efficiency of a given engine under specified conditions.

INSTRUCTOR, *Prof. Stahl.*

BOILERS.—Six weeks, five hours per week. The various modern forms of steam boilers are carefully studied, noting their advantages and disadvantages, and the methods employed in their construction. The number and size of tubes and flues, the thickness of plates, strength of different styles of riveting, kinds of bracing, amount of grate and heating surface, different kinds of steam and water gauges, safety valves and injectors; the causes of and methods of preventing foaming, incrustation and corrosion, the manner of setting boilers and of operating them with safety and economy, are all studied in detail. Each student participates in at least one complete boiler test, determining the evaporative power and economy of combustion of fuel of one or more boilers, under given conditions.

INSTRUCTOR, *Prof. Stahl.*

STRENGTH OF MATERIALS. Six weeks, five hours per week. This subject includes the study of the strength, elasticity, and other physical properties of the various materials of construction, such as stone, wood, cast and wrought iron, steel, copper, brass, etc. Students acquire this information partly from text-books, but principally from actual experiments made by themselves with the powerful testing machine belonging to the Testing Laboratory. The proper forms for greatest strength under given conditions, as well as the laws governing deflection and elasticity, are deduced by theoretical investigation and verified by practical experiment.

INSTRUCTOR, *Prof. Stahl.*

MACHINE DESIGN.—Eight weeks, five hours per week. During this time, exercises are given in the design of simple machines to do given work under specified conditions. The necessary motions are carefully laid out, and the sizes and proportions of the various parts are determined by calculation. Part of the time is devoted to the manner of arranging shops, the means of transmitting power over both short and long distances, and to the solution of some of the miscellaneous problems constantly arising before the mechanical engineer.

INSTRUCTOR, *Prof. Stahl.*

MECHANICAL DRAWING AND EXPERIMENTAL WORK IN ENGINEERING.—Thirty-five weeks, ten hours per week. Throughout the senior year students devote two hours daily to practical work in the drawing-room and in the testing laboratory. They make drawings of peculiar and complicated machinery; they also prepare the necessary drawings in connection with the study of machine design. They take part in all the experimental work done by the testing laboratory, including the determination of the efficiency of boilers, steam engines and pumps, the relative value of coals, the strength of the materials of construction, and other subjects of importance to the mechanical engineer.

INSTRUCTOR, *Prof. Stahl.*

POLITICAL ECONOMY.—Sixteen weeks, four hours per week. See Political and Intellectual Science, page 68.

ELECTIVE STUDIES.—In addition to the foregoing studies students must select one of the following:

1. **APPLIED ELECTRICITY.**—Thirty-five weeks, six hours per week. The work in this subject includes systematic laboratory instruction in the setting up and care of the various forms of fluid, thermo- and secondary batteries, in the use of galvanometers, resistance coils, condensers, etc., in the measurement of resistance of conductors and batteries, insulation of cables, electromotive force, etc., in the construction and testing of electro-magnets, and in the applications of electricity to industrial purposes.

Special attention is given to the magnitude of electrical units and their relation to the mechanical units. Instruments of the latest and best forms are provided for this work.

INSTRUCTOR, *Prof. Huston.*

2. **LITERATURE.**—Thirty weeks, one exercise per week. See Literature and History, page 64.

3. **GERMAN.**—Thirty-five weeks, five hours per week. See Modern Languages, page 66.

VISITS OF INSPECTION.

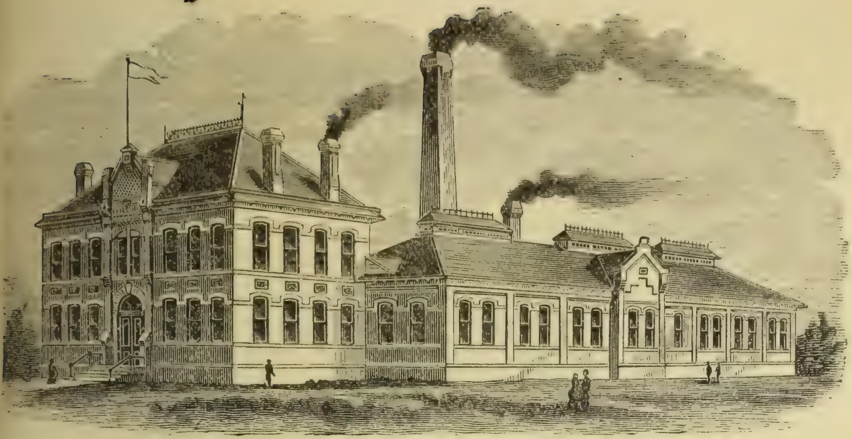
During the Junior and Senior years, students make visits of inspection, in charge of an instructor, to the prominent manufacturing establishments of Chicago, Indianapolis and other cities. Such trips are of very great value to the students, affording them an opportunity of seeing in actual practice those processes of manufacture, whose theory they have already studied in the class-room.

GRADUATING THESES.

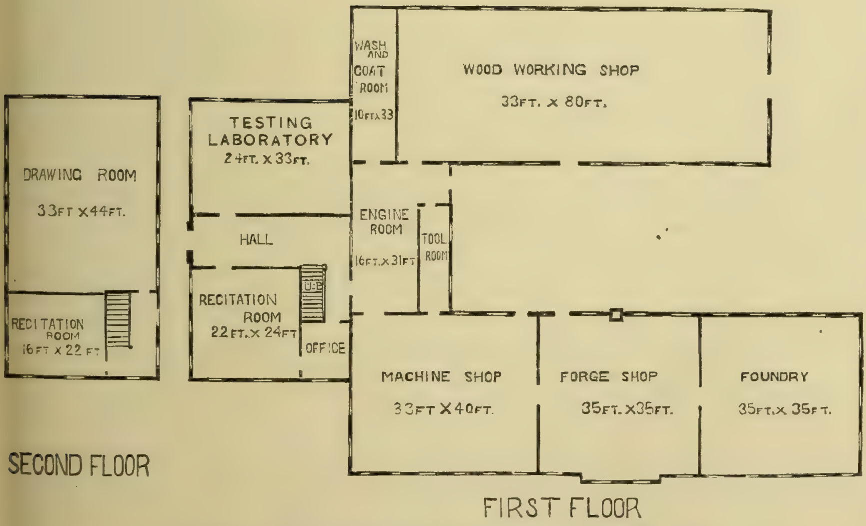
As a condition of graduation, students in the School of Mechanics and Engineering are required to present a thesis on some approved subject. Such theses must be original compositions of suitable length, on some subject of interest to the mechanical engineer. The subjects are so selected as to necessitate original work, either of investigation or of experiment, on the part of the student. The originals of theses are preserved in the University Library.

The following are the subjects of the theses presented by the last graduating class:

1. "Bessemer Steel: Its History and Practical Manufacture."
2. "Steam Engine Indicators: the Various Forms in Use and Their Applications."
3. "Methods of Testing Steam Boilers, Including the Result of an Experimental Determination of the Efficiency of a Pair of Steam Boilers."
4. "The Stones and Quarries of Indiana, Including Experimental Determination of Their Physical Properties."
5. "Windmills: Their History and Present Forms, Including Experiments in Determining Their Efficiency."



MECHANICAL LABORATORY.



PLANS OF MECHANICAL LABORATORY.

MECHANICAL LABORATORY.

The Mechanical Laboratory is wholly occupied by the School of Mechanics and Engineering.

The main portion of the building is occupied by two recitation-rooms, a drawing-room, a testing laboratory and an office. The drawing-rooms are furnished with tables, drawing-boards and T squares for each student. There is also provided, for general use, a supply of the more expensive drawing instruments, such as proportional dividers, protractors, beam compasses, etc., and a large number of rubber curves.

In the wings of the building are a wood-working room, a foundry, a forge-room, and a machine-room; and connected with these, an engine room, a tool-room and a coat-room. The wood-working room contains twenty benches, with full sets of bench tools for wood, eleven lathes for turning, a grindstone, a circular saw and a scroll saw. The foundry is equipped with a cupola furnace for iron, a crucible furnace for brass, a core oven, and a full supply of sand, flasks and molders' tools. The forge-room contains fourteen forges, to which air blast is supplied by power, fourteen anvils, and fourteen sets of the usual smithing tools. The machine-room contains two screw-cutting machine lathes of sixteen-inch swing, four of fourteen-inch swing, and one of ten-inch swing; also a machine planer, a shaper, a universal milling machine, a grindstone, two vertical drilling machines, a speed lathe, and an emery grinder. These machines are provided with all the necessary small tools, cutters, etc., necessary to their complete and economic action. In the machine-room are benches, fitted with vises for use in connection with hand-work in metal.

The motive power for the shops is supplied by an automatic cut-off engine of thirty-five horse-power.

TESTING LABORATORY.

The work done by the Laboratory includes the determination of the strength and other physical properties of the materials of construction, the testing of steam boilers by hydraulic pressure, examination and correction of steam gauges, determination of the evaporative power and economy of combustion of fuel of steam boilers, and of the efficiency and amount of fuel consumed per horse-power of steam engines. The Laboratory also determines the relative value of coals for steaming purposes, conducts competitive tests of rival engines, boilers or other machinery, and is prepared to make experimental determinations in other matters of interest to the engineering profession.

Students perform work in the Testing Laboratory as part of the regular course in strength of materials, boilers and steam engines, and assist in all commercial and experimental work done by the Laboratory.

The Laboratory is provided with a powerful machine for testing the strength and elasticity of materials. The machine can exert any strain up to 50,000 pounds, and can subject the specimen to tension, compression or transverse strain. In addition, the Laboratory possesses a steam gauge tester, steam engine indicator, planimeter and other necessary appliances, and has the use of the thoroughly equipped shops of the University.

SCHOOL OF SCIENCE.

The special object of the School of Science is to give a thorough training in biological, chemical and physical science. It combines with this as much literary, mathematical and philosophical work as possible.

A larger number of Electives has been introduced than has heretofore been allowed.

This arrangement gives the Juniors and Seniors in the School of Science the option of four different courses of study, in each of which one of the following subjects may engage the greater part of the student's time, viz:

1. Biology.
2. Chemistry.
3. Physics and Mathematics.
4. Literature and History.

FRESHMAN YEAR.

BOTANY.—Eleven weeks, ten hours per week. This elementary and general course consists of instruction by lectures and laboratory work in the gross anatomy and morphology of various types of flowering plants. In the last few weeks instruction in systematic botany is given by laboratory and field work in naming and classifying some of the common spring flowers.

INSTRUCTOR, *Prof. Barnes.*

DRAWING.—Thirty-eight weeks, five hours per week. See Industrial Art, page 59.

RHETORIC.—Thirty-eight weeks, three hours per week. See Literature and History, page 63.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 65.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 65.

ELOCUTION.—Twenty-seven weeks, one hour per week.

FRENCH OR GERMAN.—Twenty-seven weeks, five hours per week, and eleven weeks, two hours per week. See Modern Languages, page 66.

SOPHOMORE YEAR.

PHYSICS.—Thirty-eight weeks, four hours per week. During the first term the properties of matter and the subject of dynamics are studied. The second term is devoted to the subjects of heat and electricity; and the third, to the subjects of sound and light. Instruction is given by lectures illustrated by qualitative experiments and recitations supplemented by quantitative laboratory work.

INSTRUCTOR, *Prof. Huston.*

BOTANY.—Nineteen weeks, five hours per week. The instruction in Botany comprises—

1. *Laboratory work*, in which students will investigate for themselves the structure of a series of plants, illustrating various types, beginning with the simple and proceeding to the more complex. Each student prepares and mounts thin sections and dissections for examination with the compound microscope. Ink drawings of dissections are required.

2. *Lectures* and *quizzes* at such times as seem most opportune. The lectures are intended to supplement the laboratory work by pointing out the bearing of the facts observed upon the relationships of the plants and their life history.

3. *References* to standard books for private reading. The chief object of this course is to train the student in methods and habits of accurate observation. Such incidental instruction and information will be embodied in the lectures and reference-reading, as seem suitable.

INSTRUCTOR, *Prof. Barnes.*

ZOOLOGY.—Nineteen weeks, five hours per week. An elementary course designed to furnish such general knowledge of the facts of Zoölogy as every educated person should possess; also to impart at the same time some training in laboratory study. The instruction is given by lectures, demonstrations and laboratory practice. It requires the student to study for himself representatives of several animal groups, and to make record of his observations by written and illustrated descriptions. The work will include histology and embryology.

INSTRUCTOR, *Prof. Osborn.*

ENGLISH LITERATURE.—Nineteen weeks, three hours per week. See Literature and History, page 63.

HISTORY.—Nineteen weeks, three hours per week. See Literature and History, page 63.

ELOCUTION.—Nineteen weeks, one hour per week.

HIGHER ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 65.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 66.

SURVEYING.—Eleven weeks, five hours per week. See Mathematics, page 66.

FRENCH OR GERMAN.—Thirty-eight weeks, two and one-half hours per week. See Modern Languages, page 66.

JUNIOR YEAR.

CHEMISTRY.—Thirty-eight weeks, eight hours per week. This course embraces general chemistry and qualitative analysis during the first two terms, with the choice of two parallel courses in applied chemistry during the spring term, as explained below:

General Chemistry.—Daily exercises (lectures, recitations and laboratory work) during the first and second terms will include the preparation, properties and detection of the more important elements and compounds, with the outlines of qualitative analysis. Chemical philosophy will be gradually introduced, as the students acquire a sufficient variety of facts from which to generalize. This work is required of all Juniors.

Agricultural Chemistry.—Lectures and laboratory work will be provided during the spring term on the chemistry of soils, the ash of plants, the proximate constituents and the growth of plant and animal, and the chemistry of feeding and the dairy. This is required in the School of Agriculture, and elective in the School of Science.

Metallurgical Chemistry.—Lectures will be given during the spring term upon the chemistry of fuels, clays and ores, and on the chemical principles underlying the manufacture and refining of cast iron, wrought iron and steel. Students will have practice in the qualitative analysis of ores and manufactured products. This is required in the School of Mechanics and Engineering, and elective in the School of Science.

INSTRUCTOR, *Prof. Warder.*

ANALYTICAL GEOMETRY.—Twenty weeks, four hours per week. See Mathematics, page 66.

CALCULUS OR LITERATURE.—Eighteen weeks, four hours per week. See Mathematics, page 66, or Literature and History, page 64.

ELECTIVE STUDIES.—Juniors must elect two of the following:

1. BOTANY.—I. Nineteen weeks, eight hours per week. The instruction includes laboratory work, with references to the literature of the subjects studied. The laboratory work will consist of the study of **Histology of Phanerogams or Cryptogams,** intended to give a wider and more detailed knowledge of the methods of investigation and facts concerning the minute structure of the various plants selected. It is based upon the work done in the Freshman and Sophomore years.

A student electing the study of Cryptogams may confine his investigation to the injurious fungi, if he so desires.

II. Nineteen weeks, eight hours per week. A laboratory course in experimental **Vegetable Physiology,** with reference readings. The preceding course in Histology is indispensable.

INSTRUCTOR, *Prof. Barnes.*

2. ZOOLOGY.—Thirty-eight weeks, eight hours per week. This course will consist chiefly of laboratory work, with lectures and quizzes to guide and test the student. Theses embodying the results of his study will be required from time to time. During the year especial attention will be given to the methods of studying animal histology, injections, hardening of tissues for section cutting, staining, embedding and the use of the microtome.

Each student will be required to mount a series of microscopic slides as a part of the work.

INSTRUCTOR, *Prof. Osborn.*

3. PHYSICS.—Thirty-eight weeks, eight hours per week. This year's work is devoted to precise physical measurements. Instruction is given by lectures, systematic laboratory work, and due discussion of the results so obtained.

Two-thirds of the time is devoted to laboratory practice. The following statement of subjects is intended to illustrate the character rather than the extent of the work done:

A study of the construction and adjustment of the balance and its use for various purposes; determination of the densities of solids and fluids; measurements of length, area and volume, and the comparison of the instruments with standards; construction and study of verniers; use of surveying instruments; determination of pressure and hights by the barometers; construction and testing of the thermometers; measurements of extreme temperatures; determination of the melting and boiling points of various substances; hygrometry; study of radiant heat by Melloni's apparatus; determination of specific heat by various methods; a study of the elasticity of various bodies; use of the spectroscope, spherometer and polariscope; determination of the length of sound wave and the laws of vibrating bodies; photometry.

INSTRUCTOR, *Prof. Huston.*

4. HISTORY AND HISTORY OF ENGLISH LANGUAGE. — Thirty-eight weeks, four hours per week. See Literature and History, page 64.

SENIOR YEAR.

HUMAN PHYSIOLOGY.—Nineteen weeks, five hours per week. The course will be a series of lectures and recitations, based upon "Martin's Human Body" as a text-book, with as much practical study of anatomy and histology as is necessary to clearness and demonstrations of some of the simpler physiological experiments.

INSTRUCTOR, *Prof. Osborn.*

GEOLOGY.—Sixteen weeks, five hours per week. Laboratory work in determination of common minerals and rocks; the construction of geological maps and sections, especially of the State of Indiana; supplemented by field work in observation of drift deposits, river erosion and the collection of the common rocks of the drift; together with lectures and text-book study of structural and dynamical geology.

INSTRUCTOR, *Prof. Barnes.*

PSYCHOLOGY.—Nineteen weeks, four hours per week. See Political and Intellectual Science, page 68.

POLITICAL ECONOMY.—Sixteen weeks, four hours per week. See Political and Intellectual Science, page 68.

ELECTIVE STUDIES.—Seniors must elect two of the following, viz.:

1. **CHEMISTRY.**—Thirty-five weeks, eight hours per week, as a single elective, or double the number of exercises as two lines of elective work. Seniors who make chemistry a single elective will take the course in quantitative analysis and prepare an experimental thesis, as described below; those who make chemistry a double elective will attend all the following lectures, supplemented by laboratory work:

(a) *Quantitative Analysis* and *Experimental Thesis*, embracing volumetric and gravimetric operations. During the last term, each student will be expected to prepare a thesis, including a review of some subject in chemistry or chemical technology, with an experimental contribution to the same.

(b) *Organic Chemistry.* Two lectures and recitations per week during the first term. A laboratory course in proximate organic analysis, in the School of Pharmacy, is also open to undergraduates in the School of Science.

(c) *Chemical Technology.* Two lectures and recitations per week during the second term.

(d) *Theoretical Chemistry.* Two lectures per week during the spring term.

INSTRUCTOR, *Prof. Warder.*

2. **PHYSICS.**—Thirty-five weeks, six hours per week. See Applied Electricity, page 47.

3. **BOTANY.**—Thirty-five weeks, eight hours per week. The character of the work done in this year will be at the option of the student, under the advice of the Professor, and the instruction is chiefly personal.

This offers decided advantages to those having a taste for any particular branch of botany, or allows students intending to study medicine to pursue those topics most intimately connected with that profession.

Instructor, *Prof. Barnes.*

4. **ZOOLOGY.**—Thirty-five weeks, eight hours per week. Students selecting this course will be allowed the greatest freedom of choice as to subject-matter, and encouraged to the greatest possible independence in their work. Such guidance and help will be given as is required to meet this end. None will be permitted to elect the course who have not previously given promise of being able to pursue it with profit. It will be observed that this course, with the previous biological courses, offers an opportunity for preliminary training to those who intend entering the medical profession in a direction which will be of great service in the special medical course.

Instructor, *Prof. Osborn.*

5. **LITERATURE.**—Thirty-five weeks, four hours per week. See Literature and History, page 64.

APPARATUS AND APPLIANCES.

Biological Apparatus.

The Botanical and Zoölogical Laboratories are provided with a sufficient outfit of microscopes and dissecting instruments to accommodate all the students who work in them. The student is furnished with the materials and utensils necessary for his work, and is held responsible for their proper care, and for any injuries they receive. A Botanical, Zoölogical and Geological Museum furnishes a great variety of material for illustration or comparison.

Chemical Apparatus.

The University has a good supply of chemical apparatus and a well-equipped laboratory. Each student is furnished with a full set of apparatus and the necessary chemicals for all his work and experiments, and he is held responsible for their proper use. He is charged with actual breakage and damage.

PHYSICAL APPARATUS.

The Physical Laboratory will accommodate forty students, and liberal appropriations have been made for its equipment and support. Much of the apparatus of this department has been purchased for the purpose of precise quantitative measurements, and large additions have been recently made. A workshop is provided for the construction of special apparatus.

SCHOOL OF INDUSTRIAL ART.

The object of this school is, in addition to giving a good general education, to give a practical knowledge of Object Drawing in Outline, Light and Shade, and Color; of Linear Perspective; of Orthographic Projection, or the Drawing of Plans, Elevations and Sections; of Wood-carving, or Clay-modeling, including Historical Ornament and Decorative Design.

FRESHMAN YEAR.

INDUSTRIAL ART.—Twenty-seven weeks, five hours per week, and eleven weeks, fifteen hours per week. **Model-Drawing in Outline.**—This includes free-hand outline drawing from round geometrical solids, as cylinders, cones, vases and crockery-ware; from straight line objects, as cubes, prisms, crosses and pyramids; also, the drawing of the above objects in groups and their application in drawing chairs, tables, sofas and buildings. **Linear Perspective.**—This subject includes the working of about one hundred problems illustrating the principles of parallel, angular and oblique perspective, and showing how to put into perspective any object. **Orthographic Projection.**—The instruction in this subject includes the drawing of about one hundred problems, illustrating the principles for making "working drawings," including plans, elevations, developments and intersections.

Light and Shade.—Under this head, model and object drawing in light and shade will be taught, using first the crayon and the stump.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 65.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 65.

RHETORIC.—Thirty-eight weeks, three hours per week. See Literature and History, page 63.

ELOCUTION.—Twenty-seven weeks, one hour per week.

FRENCH OR GERMAN.—Twenty-seven weeks, five hours per week, and eleven weeks, two hours per week. See Modern Languages, page 66.

SOPHOMORE YEAR.

INDUSTRIAL ART.—Twenty-seven weeks, five hours per week, and eleven weeks, ten hours per week. **Light and Shade.**—Further practice will be given under this head in drawing from casts and in using the brush. **Color.**—The instruction here embraces the theory of color, including the principles of harmony and contrast, and practice in water or oil colors, as applied to object-drawing, and still-life.

HIGHER ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 65.

TRIGONOMETRY.—Fifteen weeks, five hours per week. See Mathematics, page 66.

ENGLISH LITERATURE.—Nineteen weeks, three hours per week. See Literature and History, page 63.

HISTORY.—Nineteen weeks, three hours per week. See Literature and History, page 63.

PHYSICS.—Thirty-eight weeks, four hours per week. See Physics, page 52.

FRENCH OR GERMAN.—Thirty-eight weeks, two and one half hours per week. See Modern Languages, page 66.

ELOCUTION.—Nineteen weeks, one hour per week.

JUNIOR YEAR.

INDUSTRIAL ART.—Thirty-eight weeks, ten hours per week. Students who have satisfactorily completed the work of the Freshman and Sophomore years in the School of Industrial Art are supposed to have a fair knowledge of drawing, at least sufficient to enable them to take up some special line of work, as wood-carving or clay-modeling. **Wood-Carving.**—At first the sharpening and the proper handling of tools are taught. Incised and low-relief carving is then practiced, followed by medium and high-relief work, as skill in the use of tools may warrant. Students begin to carve easels, tables, sideboards, etc., soon after entering the carving class. **Historical Ornament.**—An outline of the principal styles of historical ornament, together with illustrative examples, will be given with wood-carving or clay-modeling, in the Junior year, during the second and third terms.

ANALYTICAL GEOMETRY.—Twenty weeks, five hours per week. See Mathematics, page 66.

HISTORY.—Nineteen weeks, four hours per week. See Literature and History, page 64.

HISTORY ENGLISH LANGUAGE.—Nineteen weeks, four hours per week See Literature and History, page 64.

CALCULUS OR LITERATURE.—Eighteen weeks, four hours per week. See Mathematics, page 64, or Literature and History, page 66.

CHEMISTRY.—General Chemistry, twenty-seven weeks, eight hours per week; and Applied Chemistry, eleven weeks, eight hours per week. See Chemistry, page 54.

SENIOR YEAR.

INDUSTRIAL ART.—Thirty-five weeks, eight hours per week. During the Senior year, students may continue Wood-carving, in connection with Decorative Design; or, if a sufficient number desire it, they may continue the course in Clay-modeling, in connection with Decorative Design; or they may take an advanced course in drawing, including casts and the human figure. **Clay-Modeling.**—The study and practice of this subject is a good preparation for work in wood, iron, stone, marble, silver or gold. It is indispensible to the first-class plasterer, stone-cutter and sculptor. After some practice in modeling simple ornaments, leaves, fruits, flowers, etc., the student is allowed to work on such subjects as will probably be of use in his future profession—it may be tiles, pottery, architectural terra cotta, or the human figure. **Decorative Design.**—In this course the principles of flat and sculptured ornamentation are studied and applied in designing surface decorations of all kinds. **Advanced Drawing.**—This course may include the balancing of the human figure as a whole, the expression of character in the face, including caricature, drawing the figure from casts and the living model. Crayon or the brush may be used.

HUMAN PHYSIOLOGY.—Nineteen weeks, five hours per week. See Human Physiology, page 56.

GEOLOGY.—Sixteen weeks, five hours per week. See Geology, page 56.

PSYCHOLOGY.—Nineteen weeks, five hours per week. See Political and Intellectual Science, page 68.

POLITICAL ECONOMY.—Sixteen weeks, five hours per week. See Political and Intellectual Science, page 68.

ELECTIVE WORK.—Thirty-five weeks, four hours per week in Literature, or additional art work, ten hours per week.

SCHOOL OF PHARMACY.

This department of the University is designed to furnish a thorough training in the art of pharmacy, and the fundamental sciences upon which it rests. The course embraces two terms of five months each, beginning on the third Tuesday of September. The instruction is both theoretical and practical, the laboratories being open thirty-five hours per week.

Persons desiring information concerning the course of study, expenses, etc., can obtain a special circular by addressing the Registrar of the University.

GENERAL STUDIES.

LITERATURE AND HISTORY.

FRESHMAN YEAR.

COMPOSITION AND RHETORIC.—The principal text-book is Clark's "Practical Rhetoric for Instruction in English Composition and Revision." Some masterpiece of English prose, such as Burke's "Speech on Conciliation with America," is read in the class-room and subjected to a thorough stylistic and structural analysis. Practical exercises in composition and criticism are made prominent throughout the year.

SOPHOMORE YEAR.

ENGLISH LITERATURE.—During the first half of the past year the text-books were Hales's "Longer English Poems," Palgrave's "Golden Treasury," and Brooke's "Primer of English Literature." To each student a suitable author is assigned for special study, the results of which are embodied in a carefully prepared thesis. The chief aim of the course is to cultivate a taste for what is best in literature, to show the student where to look for the best, and to teach him to distinguish it from the second-best and the inferior.

ODERN HISTORY.—Throughout the second half-year the class studies the general history of medieval and modern times, the text-book being Sheldon's "Studies in General History," This book is not an ordinary history but a collection of historical materials, the aim being to train the student in the methods of historical investigation as well as to teach him facts and dates. He is compelled to reflect upon historical problems and to draw his own conclusions, subject always to the free criticism of class and instructor. As "history repeats itself," it is believed that such a course furnishes an invaluable preparation for American citizenship. Topics for special oral reports are regularly assigned, and the student is familiarized with the use of a wide range of reference books.

JUNIOR YEAR.

ANCIENT HISTORY (Elective).—During the first half-year Ancient History is studied, with special reference to the origin and development of modern institutions. Except that origins rather than results are investigated the methods of study are much the same as in the preceding year, the same text-book being used.

HISTORY OF THE ENGLISH LANGUAGE (Elective).—During the second half-year Anglo-Saxon and early English are studied, and from these the student is taught to trace the development of our modern speech and literature. This course is a valuable preparation for the advanced study of literature in the Senior year.

ENGLISH PROSE (Elective).—In the second half-year an option is offered between Literature and Calculus. The course in literature is a study of the principal masters of English prose, with special reference to characteristics of style. Text-book: Minto's "Manual of English Prose."

SENIOR YEAR.

ENGLISH LITERATURE (Elective).—This course extends throughout the year. At least half of the student's time is spent in the preparation of special reports upon topics assigned by the instructor. Typical works of Chaucer, Spenser, Shakspere, Milton, Pope, Wordsworth, Shelley, and Browning are studied in detail. These works are studied in their relation to the lives and characters of their authors, as well as for the light they throw upon contemporary life and events. An attempt is also made to indicate the relation of each of these great writers to the development of modern thought.

INSTRUCTOR, *Prof. Anderson.*

MATHEMATICS.

FRESHMAN YEAR.

The first term is devoted to **Plane Geometry,** in which the student is required to demonstrate the theorems with logical accuracy, and to construct the problems with such care that the deduced lines, measured on a scale of equal parts, will be found practically correct.

Theorems and problems not found in the text-book are frequently given as exercises in original work.

The second term is given to **Solid and Spherical Geometry,** and in the third term **Higher Algebra** is commenced.

SOPHOMORE YEAR.

The first term is devoted to the continuation of **Higher Algebra** and the student is thoroughly drilled in the subjects of *Indeterminate Coefficients, Loci of Equations, Theory and Use of Logarithms, Indeterminate Equations, General Theory of Equations,* including *Sturm's Theorem, Cardon's Rule for Cubics* and *Horner's Method of Approximation,* and kindred subjects.

The second term is devoted to **Plane and Spherical Trigonometry,** and the third term is devoted to **Surveying.** Ample time is spent in field work to familiarize the student with the use of the instruments. He obtains data for the examples illustrative of the various Rules laid down in the text-book, and thus learns the practical as well as the theoretical part of the science.

JUNIOR YEAR.

The first half of this year is given to *Co-ordinate Geometry* of two and three dimensions. The student is made familiar with the principal properties of the *parabola, ellipse* and *hyperbola,* and is so trained that he can investigate the properties of any line with which he is liable to meet in his subsequent investigations. The remainder of the year is devoted to the study of the *Differential* and *Integral Calculus.* This is a *required* study for those taking the Mechanical Course; but it is *elective* in the Science and Industrial Art Courses.

MODERN LANGUAGES.

These languages will be taught at the time indicated in the general scheme, and according to the latest and most approved method. Conversation will be made a prominent feature in the instruction.

Freshman Year.

Twenty-seven weeks, five hours per week will be given to each language.

FRENCH.

First Term.—Duffet's New French Method. Worman's First Book.

Second Term.—Grammar continued. Read one of *Feuillet's* modern plays. Conversation.

GERMAN.

First Term.—Worman's Complete Grammar. First book and Reader.

Second Term.—Grammar continued. Read one or more modern plays. Conversation.

Sophomore Year.

Thirty-eight weeks, an average of two and one-half hours per week, will be given to each language.

FRENCH.

First Term.—Commence second part of the Grammar, Composition, Conversation, Corneille's Le Cid.

Second Term.—Grammar continued, Composition, Conversation, commence *Racine's Athalie.*

Third Term.—Composition, Conversation, complete *Racine's Athalie.*

GERMAN.

First Term.—Grammar continued, Conversation, commence *Schiller's William Tell.*

Second Term.—Grammar continued, Composition, complete *Schiller's William Tell.*

Third Term.—Composition, Conversation, Hodge's Course in Scientific German, *Goethe's Faust.*

Instructor, *Augusta N. Jones.*

POLITICAL AND INTELLECTUAL SCIENCE.

SENIOR YEAR.

The instruction in **Political Economy** aims to train the student in probable reasoning and to guard him against hasty generalizations in those departments of the science where the facts are not well determined and known. Special attention is given to those subjects which more directly relate to agricultural and mechanical interests.

The instructions in **Psychology** (Porter's Intellectual Science) does not differ essentially from that given in other colleges. The aim is to give less attention to the speculative and historical phases of the science and more to the empirical and practical.

SPECIAL WORK.

Persons who are qualified to do so, may be permitted for special reasons to select single or related lines of work in any school. The faculty will in each case prescribe the minimum amount of time to be spent in such work. A certificate stating the amount of work done will be given to students who pursue any special studies.

Regular students will not be permitted to select any study which will cause them to become irregular.

MILITARY TACTICS.

Instruction in Military Tactics is provided for by the law of Congress endowing this Institution, and for several years such instruction has been given. The joining of the company is *voluntary*, but, when a student becomes a cadet, he is held to regular attendance and military discipline during the period of his enlistment, which shall be for the college year. The company is supplied with the best breach-loading rifles, with complete accoutrements.

ADMISSION.

CONDITIONS OF ADMISSION.

Applicants for admission to the Freshman Class must be sixteen years of age. Certificates of good character will be required. Those who come from other institutions must produce certificates of honorable dismissal.

Applicants are examined in English (including Grammar, the elements of Composition, Reading and Spelling), Descriptive Geography, History of the United States, Arithmetic, and Algebra through Quadratic Equations.

In order to indicate the scope of the requirements in History and English, Johnston's "History of the United States," and Reed and Kellogg's "Higher Lessons in English," the text-books used in the Preparatory Course, are mentioned.

In **English,** more importance is attached to the ability to speak and write correctly than to the mastery of technical grammar. The applicant is required to write a short composition evincing familiarity with some masterpiece of literature. The work selected for the year 1887 is Scott's "Antiquary." An attentive perusal of that book, with reference to the thought, the language, the plot, and the characters, is, therefore, urgently advised.

It will be noted that the standard of requirement in Mathematics, English and History, is relatively high, necessitating a a full year's work in addition to what is required for admission to the Preparatory Class. (See page 77).

In **Arithmetic,** special attention is directed to the following subjects: Greatest Common Divisor, Least Common Multiple, Common and Decimal Fractions, Denominate Numbers including the Metric System of Weights and Measures, Percentage including Interest, Discount and Commission, and Extraction of the Square and Cube Roots.

In **Algebra,** the applicant should be thorough in the Fundamental Operations, Equations of the First Degree, with one or more unknown quantities, Equations of the Second Degree, Radicals, and Ratio and Proportion.

For samples of questions given see page 89.

ADMISSION WITHOUT EXAMINATION.

Applicants who have completed their course of preparation in High Schools, which have been commissioned by the State Board of Education, will be admitted to the Freshman class without examination.

For list of Commissioned High Schools see page 85.

An arrangement has been made with the Director of the Chicago Manual Training School by which graduates of that institution will be received into Purdue University for the purpose of completing a course in Mechanical and Electrical Engineering, and will be given due credit upon all work previously accomplished by them as shown by the certificate of the Director.

ADMISSION TO ADVANCED CLASSES.

Persons desiring to enter an advanced class in the University will be required to give satisfactory evidence that they have done work equivalent to that already accomplished by the class to which entrance is desired.

Advanced students who can give evidence that they have done work equivalent to the Language, Literature, History and Mathematics of our Freshman and Sophomore years, can take the technical work done in those two years in one year, and thus be enabled to complete any one of the general courses in three years.

MATRICULATION.

As a condition of admission to the University, or any department therein, or of reëntrance, students are required to subscribe to all regulations of the University relating to the obligations and duties of students, and promise a faithful compliance therewith during their connection with the University; that is, until dismissed or graduated.

A copy of the rules and regulations of the University will be forwarded to any address upon application.

EXAMINATIONS FOR ADMISSION.

Entrance examinations are held at the University in June and September of each year. In 1887 the first examination will begin June 7, and the second September 6. Applicants may appear at either examination ; but, when practicable, it is best to apply in June.

Examinations will usually require two days. *Candidates must be present at 9 A. M.* on the days specified.

Arrangements have been made for holding entrance examinations in the several counties of the State, under the direction of County Superintendents. Applications for such an examination should be made to the President of the University, Lafayette, Indiana. On the receipt of one or more applications from any county, printed questions, with directions, will be sent to the County Superintendent, and the applicants may present themselves at the regular county examination for teachers, held Saturday, July 30. The written answers will be forwarded to the University, where they will be read and graded, and a certificate of admission forwarded to each applicant who has passed the examination.

Applicants must state whether they wish to be examined for the Preparatory or for the Freshman Class.

APPLICATIONS FOR ADMISSION.

Application for admission to any department of the University should be made to the President, and prior to the opening of a year or term, when this is practicable. In making application by letter, applicants are requested to give their age, the studies which they have pursued, and a general idea of their attainments. A catalogue will be sent to any address, on application. Address, President of Purdue University, Lafayette, Indiana.

DEGREES.

Graduate Degrees.

I. The degree of Bachelor of Science (B. S.) will be conferred upon students who complete the prescribed course of study in either the School of Science, the School of Agriculture, or the School of Industrial Art.

II. The degree of Bachelor of Mechanical Engineering (B. M. E.) will be conferred on students who complete the prescribed course of study in the School of Mechanics and Engineering.

III. The degree of Graduate in Pharmacy (Ph. G.) will be conferred upon all persons who have graduated from the School of Pharmacy.

Post-Graduate Degrees.

I. The degree of Master of Science (M. S.) will be conferred upon the following conditions:

(*a*) Candidates must have received the degree of B. S. at this University, or at some other institution having equal requirements for it.

(*b*) Candidates must pursue and complete, at Purdue University, a special course in advanced science, pass an examination thereon, and present a satisfactory thesis.

(*c*) Graduates of Purdue University may, by permission of the Faculty, substitute for condition (*b*) the following, in which case a residence at Purdue University will not be required, viz.: Having held the degree of B. S. for not less than three years, they must pursue a special course in advanced science under the direction of the Faculty, pass an examination thereon, and present a satisfactory thesis.

II. The degree of Mechanical Engineer (M. E.) will be conferred upon the following conditions:

(*a*) Candidates must have received the degree of B. M. E. at this University, or the degree of B. S. or B. M. E. at some other institution, whose requirements for such degree are equal to our requirements for the degree of B. M. E.

(*b*) Candidates must pursue and complete, at Purdue University, a special course in Mechanical Engineering, pass an examination thereon, and present a satisfactory thesis.

(*c*) Graduates of Purdue University may, by permission of the Faculty, substitute for condition (*b*) the following, in which case a residence at Purdue University will not be required, viz.: Having held the degree of B. M. E. for not less than three years, during at least two years of which they must have been engaged in professional work, they must pass an examination and present a satisfactory thesis.

III. The degree of Analytical Chemist (A. C.) will be conferred upon the following conditions:

(*a*) Candidates must have received the degree of B. S., B. M. E. or B. A. at this University, or at some other institution having equal requirements, and must have as much special training in Chemistry as that afforded our own undergraduates.

(*b*) Candidates must pursue and complete, at Purdue University, a special course in Analytical, Theoretical and Industrial Chemistry, pass an examination thereon and present a satisfactory thesis.

The shortest time in which any one of the special courses referred to in conditions (*b*) can be completed will be one year; and, unless the candidate is exceptionally well prepared, a longer time will be required.

The required theses must be presented at least three weeks before Commencement Day.

A fee of five dollars for the diploma, in the case of graduate as well as of post-graduate degrees, must be paid to the Registrar before Commencement Week.

POST-GRADUATE WORK.

Graduates of this and other colleges, who desire to pursue special lines of study or investigation, will be afforded laboratory facilities for such work, under the direction of the Faculty.

THE PREPARATORY CLASS.

INSTRUCTORS.

Oscar J. Craig, A. M., Principal.
Mrs. Sara F. Fletcher, } Assistants.
Miss Bertha A. Reynolds, } Assistants.
Joseph Swearingen, } Assistants.
William C. Latta, M. S., Agriculture.
James Troop, M. S., Horticulture.
Langdon S. Thompson, A. M., Industrial Drawing.
Michael Golden, Shop-work and Mechanical Drawing.

The Preparatory Class affords instruction in Algebra, Arithmetic, English, Elocution, Physiology, Physical Geography and History of the United States. The students who complete the required work in these subjects are prepared to enter the Freshman classes of any of the various schools of the University.

In addition to this regular course, instruction is also given in Agriculture, Shop-work and Mechanical Drawing, and Industrial Drawing. Students who make their preparation elsewhere for the Freshman classes of the University are not required to pass examination in these special industrial subjects. The requirements for admission to the Freshman Class are given on page 69.

The Preparatory Class is in charge of a Professor of the University, and is provided with commodious rooms and all the appliances necessary for thorough and practical instruction. The fine apparatus found in the other departments of the University is used by the instructors of this class. The library is accessible to all students, and contains an excellent selection of the books needed for reference in pursuing the Preparatory studies. The course of study embraces one year's work, and is arranged as follows:

COURSE OF STUDY.

FIRST TERM.

REQUIRED.

Algebra. Fundamental Rules, Factors, and Multiples.—*Wentworth.*

Arithmetic. Review of the Metric System, Percentage, Proportion, Involution and Evolution.—*White.*

English. English Grammar reviewed, Analysis and Parsing.—*Reed and Kellogg.*

Elocution. Including Articulation, Expression and the Study of Words.

ELECTIVE.

Agriculture, Shop-Work and Mechanical Drawing, Industrial Drawing.

SECOND TERM.

REQUIRED.

Algebra. Fractions and Equations of the First Degree.—*Wentworth.*

English. Elements of Composition.—*Reed and Kellogg.*

History. History of the United States.—*Johnston.*

ELECTIVE.

Agriculture, Shop-Work and Mechanical Drawing, Industrial Drawing.

THIRD TERM.

REQUIRED.

Algebra. Quadratics and Radicals.—*Wentworth.*

English. English Literature and Composition.—*Selected.*

History. History of the United States.—*Johnston.*

ELECTIVE.

Agriculture, Shop-work and Mechanical Drawing, Industrial Drawing, Physiology and Physical Geography.

REMARKS ON THE PREPARATORY COURSE OF STUDY.

Students who enter the Preparatory Class will, in addition to the required academic work, select one of the industrial subjects marked elective, and having made the selection will continue the subject until the end of the year.

On entering the Freshman Class, a change of course will be permitted, although those who expect to follow the Agricultural course are advised to elect Agriculture in the Preparatory Class; those who intend to pursue the Mechanical course to elect Shop-work and Mechanical Drawing, and those who intend pursuing either the Industrial Art course or the Science course to elect Industrial Drawing.

The special work in Agriculture will be arranged as follows: During the first term instruction will be given in the subject of General Farming, during the second term in Stock-raising, and during the third in General Horticulture.

The Shop-work will include Bench-work in wood—giving practice in the use of the common carpenter's tools, and machine work in wood, including circular-sawing and scroll-sawing and turning. The Mechanical Drawing will include practice in sketching and in making drawings to scale, in plan, elevation and section from copy.

The work in Industrial Drawing is as follows: *First Term*—Outline drawing from objects, such as cylinders, cones, vases and such common objects as illustrate the circle seen obliquely; the drawing of cubes, of square, triangular and hexagonal prisms, crosses, skeleton cubes, etc. *Second Term*—The drawing of objects in Light and Shade. Objects similar to the above will be drawn and shaded, using the crayon and stump, and afterward charcoal, sepia, neutral tint, India ink, etc. *Third Term*—Shading will be continued during this term.

CONDITIONS OF ADMISSION.

Applicants for admission to the Preparatory Class must be fifteen years of age. They must pass a satisfactory examination in Arithmetic, Geography, English Grammar, Reading, Spelling and Writing. The examination must show a good knowledge of these elementary branches as taught in the common schools.

Arrangements have been made for holding examinations for admission to the Preparatory Class in the several counties of the State under the direction of County Superintendents. Applications for examination should be made to the President of the University, or to the Professor in charge of the class, Lafayette, Indiana. For fuller directions, see page 71.

Applicants from other schools should bring certificates both as to scholarship and deportment.

ADVANTAGES.

LOCATION, GROUNDS AND BUILDINGS.

Purdue University is located about one mile west of the city of Lafayette and adjacent to the village of Chauncey. The grounds are over one hundred feet above the high-water mark of the Wabash River, and the buildings command a fine view of the city, the valley, and the surrounding country. Lafayette is situated at the intersection of four railroad lines, extending respectively from Cincinnati and Indianapolis to Chicago, from Toledo to St. Louis, from Louisville, Ky., to Chicago, and from Sandusky, Ohio, to Bloomington, Ill. These roads give the University direct railroad connection with all parts of the State.

The campus and gardens contain twenty acres, and are beautifully laid out with walks and drives.

There are six large college buildings, viz.: (1) The University Hall, containing the chapel, two society halls, museums, library, recitation rooms, and the Zoölogical and Botanical Laboratories. (2) A boys' dormitory, with accommodations for ninety students. (3) A building containing the young ladies' dormitory, the dining-hall, and the Art Department. (4) A Chemical and Physical Laboratory. (5) Agricultural Hall, containing recitation rooms, an agricultural museum, and the agricultural experiment laboratories. (6) A Mechanical Laboratory, including machine shop, forge shop, foundry, wood-working shop, and Testing Laboratory, with commodious draughting and recitation rooms.

Besides these there are several other buildings, including a boiler and gas house, military hall, a greenhouse, and several farm buildings.

LIBRARY.

The Library occupies a commodious and well-lighted room, 40 by 26 feet, appropriately fitted and furnished for quiet study and investigation. It contains a valuable collection of books of reference in each department and a large number of miscellaneous works of standard value. The number of volumes in the Library, exclusive of duplicates, pamphlets, and unbound works, is 3,700.

The Reading-room is in the adjoining room, 40 by 26 feet, formerly known as the Botanical Laboratory. It is abundantly furnished with encyclopedias, dictionaries, and many other books for reference, and with most of the literary and scientific journals and periodicals of the day, freely accessible to all for reading. These are as follows:

Agricultural Gazette, Agricultural Science, American Agriculturist, American Bee Journal, American Dairyman, American Florist, American Grange Bulletin, American History Magazine of, American Journal of Science, American Machinist, American Microscopical Journal, American Naturalist, American Railroad and Engineering Journal, Art Amateur, Art Interchange, Art Magazine of, Atlantic Monthly, Blacksmith and Wheelwright, Botanical Gazette, Breeders' Gazette, Canadian Entomologist, The Century, Chemical News, Country Gentlemen, Decorator and Furnisher, Drainage and Farm Journal, Fortnightly Review, The Forum, Education, Engineering, Gardener's Monthly, Harper's Monthly and Weekly, Indiana Farmer, Journal of Royal Microscopical Society, Locomotive, Mechanics, The Microscope, Millstone and the Corn Miller, The Nation, National Live Stock Journal, Nature, New England Farmer, New England Journal of Education, New York Weekly Tribune, Nineteenth Century, North American Review, Political Science Quarterly, Popular Science Monthly, Poultry World, Princeton Review, Science, Scientific American and Supplement, Watchman, Western Manufacturer, and several daily papers.

To these have recently been added the following pharmaceutical periodicals:

The American Druggist, The Analyst (Eng.), American Journal of Pharmacy, The Druggists' Circular, The Chemist and Druggist (Lond.), Pharmaceutical Record, and Western Druggist.

SOCIETIES.

Four literary societies are open to students—the Irving, the Philalethean, the Carlyle and the Emersonian; the first, third and fourth for young men, the second for young women. The exercises consist principally of essays, declamations, debates, and orations, and are an efficient means of improvement in writing and speaking. The college societies have commodious halls, neatly carpeted and furnished.

Besides these there is a well organized Scientific Society devoted to the independent study of scientific subjects, and an Art Club, both holding monthly meetings.

RELIGIOUS EXERCISES.

All students are required to attend morning prayers in Purdue Chapel daily at 10:15 A. M., except Saturday and Sunday.

Suitable exercises are held in Purdue Chapel every Sunday afternoon. Students on the college grounds, and those boarding in Chauncey, are expected to attend. The exercise is entirely unsectarian in its character, consisting of a sermon, or a lecture upon some moral or religious topic, together with prayer, Bible reading, and singing. This service is conducted by the members of the Faculty, or by persons who may be invited to do so by the President.

A branch of the Young Men's Christian Association was organized by the students in 1880, and it has held regular meetings each week during the past year.

EXPENSES, BOARDING, ETC.

EXPENSES.

Purdue University is a State Institution, and the tuition is therefore *free* to students who are residents* of the State of Indiana. The expense for board and for incidentals incurred in attending Purdue University are very low.

The charges for the year 1887–88 will be as follows:

Entrance fee in College, per year	$5 00
Entrance fee in Preparatory Department, per term, $2; per year	5 00
Incidental fee in departments, per term	3 00
Laboratory fees, per term, Freshman, $2; Sophomore, $3; Juniors and Seniors	5 00
Table board per week, Dining Hall†	2 50
Table board per week, Club	2 00
Room rent, heat and light, per week	50
Washing, per dozen, not exceeding	75

From the above it is seen that a student's average expenses for thirty-eight weeks in the College, except for books, will be as follows:

Entrance and incidental fees	14 00
Laboratory fees, average	11 25
Table board (averaging $2.25 per week)	85 50
Room, heat and light	19 00
Washing, about	12 00
Total for the year, about	$141 75

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*Persons residing outside of the State of Indiana, who desire to attend Purdue University, will apply to the President of the Faculty for information concerning terms, etc.

†The Boarding-house is kept by Mrs. G. Stockton, to whom all bills are paid.

All bills must be paid *in advance*, entrance and incidental fees at the beginning of the term or year, and room rent at the beginning of each term. A *pro rata* part of all incidental fees paid in advance will be refunded to students who are withdrawn on account of sickness.

Students taking a course in Chemistry are required to deposit with the Registrar five dollars a term in advance to cover breakage and use of apparatus. The money that is not used will be refunded at the close of the term.

YOUNG MEN'S DORMITORY.

The Young Men's Dormitory is reserved for the use of appointed students. Rooms will be assigned in the order of application therefor. No outside rooms will hereafter be furnished to students at the expense of the University. Appointed students temporarily occupying rooms outside may move into the dormitory as soon as a vacancy occurs.

The young men occupying rooms in the Dormitory are required to keep them in good order and to observe all other rules governing their occupancy. A failure to observe such rules, or other disorderly conduct, forfeits a student's right to a room. The occupants of rooms are held responsible for all injury to the same or to furniture and fixtures therein, and all gas burned after 10 o'clock is charged extra. As a condition of occupying a room, a student must deposit with the Registrar five dollars, as a fund to pay for breakage, extra gas, and other fines. When he withdraws from the Dormitory, or at the close of the year, so much of this money as is not required to pay charges will be refunded. Members of the Preparatory and Freshman classes who occupy the Dormitory are not allowed to visit the city of Lafayette in the evening, except by permission.

Each suite of rooms in the Dormitory is furnished with bedsteads, washstands and sets, and tables and chairs. Mattresses and bedding, towels, soap, mirrors, brooms, etc., are furnished by students. Young men occupying rooms may procure table-board at the Boarding-house or elsewhere, as they may prefer, but self-boarding in the Dormitory is not allowed. Boarders will not be received at the Boarding-house for less than a term.

THE LADIES' HALL.

The young ladies occupying rooms in the Ladies' Hall are required to keep them in good order and to observe all rules governing their occupancy. Gas consumed after 10 o'clock, and the cleaning of rooms while occupied, will be charged extra. The rooms are neatly carpeted, and are furnished with bedsteads and mattresses, washstands and sets, tables and chairs. The occupants furnish bedding, towels, mirrors, etc. The young ladies who occupy rooms are under the personal supervision of a lady member of the Faculty. Only twenty young ladies can be accommodated with rooms.

PRIVATE BOARD.

Students who may not wish to board in the University can obtain board in private families in Chauncey at reasonable rates, but students will not be permitted to board at places not approved by the Faculty. Good accommodations for self-boarding, or for club-boarding, can also be secured in Chauncey, and the cost of board, not including room, may thus be reduced to about $2 or $2.25 per week.

STUDENTS APPOINTED BY COUNTY COMMISSIONERS.

A law passed March 12, 1877, gives the Board of Commissioners of each county of Indiana the authority to appoint two students, residents of the county, to Purdue University, and the students thus appointed are exempt from the payment of entrance and incidental fees, and the regular charges for room, heat and light. They must, however, pay the usual laboratory fee for chemicals and other materials, and for the use of instruments, machinery, etc. The reduction thus provided for amounts to $33 a year, thus reducing the necessary average expenses of a student to about $100 per annum. Sixty-nine of the students in attendance the present year were appointed. The students appointed must reside in the county in which the appointment is made.

Students who desire to enter Purdue University from a county whose quota of appointed students is already full are reminded that no tuition fee is charged, and that they can enter the University by the payment of the incidental fees.

Such persons should not wait until a vacancy occurs, but should enter whenever they are prepared to do so, and immediately file their application, asking for a county appointment whenever a vacancy shall occur.

WORK.

On the Farm.—The farm is cultivated with improved implements, and hence there is but little work which can be done by students. The teams must be handled and cared for by regular hands. About the only assistance which students can render is in harvesting the fall crops and in the care of stock; and this work, as well as that needed on the University grounds, in the nursery, orchard and greenhouse, and in the experimental field, is chiefly done by *the students taking the Agricultural Course.* The amount of other work to be done by the students is very limited and no one should come to the University depending upon work if he has not previously made a successful application for it.

In the Shops.—On Saturdays, and at other convenient times, opportunity will be given to those who are proficient in their class work to add to their experience by making repairs, and in the construction of tools and appliances. For such work students receive compensation varying with the extent of time covered by their shop experience.

COMMISSIONED HIGH SCHOOLS.

FORM OF CERTIFICATE.

STATE OF INDIANA.

HIGH SCHOOL COMMISSION.

This certifies that . . . . , Superintendent of the Graded Schools of the . . . . , is authorized by the State Board of Education to certify students of the High School Department of said schools for admission to the Indiana University, Purdue University, and the State Normal School, in accordance with the requirements of the said several institutions.

Department of
Public Instruction.
Indianapolis, ... , 18 . .

For the State Board of Education.

SEAL.

. . . . President.

. . . . Secretary.

LIST OF COMMISSIONED HIGH SCHOOLS.

Name of City or Town.	Name of Superintendent.
AMBOY	J. R. Sherrick.
ANDERSON	Robert I. Hamilton.
ATTICA	Henry J. Shafer.
AUBURN	M. W. Harrison.
AURORA	F. D. Churchill.
BEDFORD	Frank P. Smith.
BLOOMINGTON	Margaret McCalla.
BLOOMFIELD	Luther C. Frame.

COMMISSIONED HIGH SCHOOLS—Continued.

Name of City or Town.	Name of Superintendent.
BLUFFTON	P. A. Allen.
BOONVILLE	Charles E. Clarke.
BRAZIL	John C. Gregg.
BROOKVILLE	A. N. Crecraft.
BROWNSTOWN	C. L. Hottle.
BUTLER	T. J. Sanders.
CAMBRIDGE CITY	W. F. L. Sanders.
COLUMBIA CITY	Wallace C. Palmer.
COLUMBUS	Andrew Graham.
CONNERSVILLE	J. L. Rippetoe.
CRAWFORDSVILLE	Temple H. Dunn.
CROWN POINT	George Voorhees.
COVINGTON	V. E. Livengood.
DECATUR	G. W. A. Luckey.
DELPHI	A. W. Dunkle.
DUBLIN	Victor C. Alderson.
EDINBURG	J. C. Eagle.
ELKHART	T. B. Swartz.
EVANSVILLE	John Cooper.
FRANKFORT	Richard G. Boone.
FRANKLIN	P. H. Kirsch.
FORT WAYNE	John S. Irwin.
GOSHEN	W. H. Sims.
GREENCASTLE	John M. Olcott.
GREENSBURG	Wm. P. Shannon.
HAGERSTOWN	B. F. Wissler.
HUNTINGTON	J. W. Caldwell.
INDIANAPOLIS	Lewis H. Jones.
JEFFERSONVILLE	R. W. Wood.
KENDALLVILLE	E. W. Wright.
KNIGHTSTOWN	Charles Hewitt.
KOKOMO	Sheridan Cox.
LAFAYETTE	T. J. Merrill.
LAGRANGE	B. J. Bogue.
LAPORTE	W. N. Hailmann.
LAWRENCEBURG	T. V. Dodd.
LOGANSPORT	J. K. Walts.
MADISON	J. H. Martin.
MARION	Hamilton S. McRae.
MARTINSVILLE	J. R. Starkey.
MISHAWAKA	Elias Boltz.
MONTICELLO	B. F. Moore.

COMMISSIONED HIGH SCHOOLS—Continued.

Name of City or Town.	Name of Superintendent.
MUNCIE	John M. Bloss.
NEW ALBANY	J. B. Starr.
NEW CASTLE	C. W. Harvey.
NOBLESVILLE	G. F. Kenaston.
PENDLETON	A. J. Reynolds.
PERU	G. G. Manning.
PETERSBURG	A. C. Crouch.
PLYMOUTH	Roscoe A. Chase.
PORTLAND	W. W. Wirt.
PRINCETON	A. J. Snoke.
RENSSELAER	F. W. Reubelt.
RICHMOND	Justin F. Study.
ROCHESTER	James F. Scull.
ROCKPORT	A. H. Kennedy.
ROCKVILLE	Lin H. Hadley.
RUSHVILLE	James Baldwin.
SALEM	I. M. Bridgman.
SEYMOUR	William S. Wood.
SHELBYVILLE	W. H. Fertich.
SOUTH BEND	James Dushane.
SPENCER	Samuel E. Harwood.
SULLIVAN	William Creager.
TERRE HAUTE	William H. Wiley.
TIPTON	C. E. Sutton.
UNION CITY	Frederick Treudley.
VALPARAISO	William H. Banta.
VEVAY	A. Hildebrand.
VINCENNES	Edward Taylor.
WABASH	D. W. Thomas.
WARSAW	John P. Mather.
WASHINGTON	M. F. Hoffman.
WATERLOO	B. B. Harrison.
WINCHESTER	E. H. Butler.

SAMPLES OF EXAMINATION QUESTIONS FOR ADMISSION.

I. IN ENGLISH GRAMMAR.

1. Write the following selection, giving the proper punctuation and capitals:

had it not rained on the night of the seventeenth of june 1815 the future of europe would have been changed a few drops of water more or less prostrated napoleon and thus gave blucher time to come up the battle of waterloo could not be commenced before half-past eleven why because the ground was soft.

those who would get a clear idea of the battle of waterloo have only to lay down upon the ground in their mind a capital a the left stroke of the a is the road from nivelles the right stroke is the road from genappe the cross of the a is the sunken road from ohain to braine-l'alleud the top of the a is mont st jean welington is there the left-hand lower point is hougoumont Reille is there with jerome bonaparte the right-hand lower point is la belle alliance napoleon is there.

2. Write a short essay upon some subject connected with Scott's " Antiquary."

3. Give an analysis of the following sentence:

" Like as a father pitieth his children, so the Lord pitieth them that fear him."

4. Give the plurals of the following: *mouse*, *man*, *baby*, *valley*, x, *datum*, *church*, *genus*, *index*, *negro*.

Decline *I*, *woman*, *William*; compare *good*, *perfect*, *evil*; give the principal parts of *lie* (to recline), *see*.

6. Correct the errors in the following sentence:

I seen the the boy raise up quick and seize the man who the blame was laid on.

7. Write the following poetry in your own words in prose:

" He that is down, needs fear no fall;
He that is low, no pride;
He that is humble, ever shall
Have God to be his guide.
I am content with what I have,
Little be it or much;
And, Lord, contentment still I crave,
Because thou savest such."

8. What is a modifier? How many kinds? Give an example of each.

9. How does a complex sentence differ from a compound sentence? Illustrate by examples.

10. What parts of speech have comparison? Declension? Inflection?

2. ALGEBRA.

1. Show that the square root of 2, multiplied by the cube root of 5, is equal to the sixth root of 200.

2. Find the highest common divisor of $16a^3-16a^2-4ab^2+4b^2$ and $8a^2+4ab-4b^2$.

3. Add $\frac{2}{3x}$, $\frac{3x}{3x+4}$ and $\frac{2+3x}{9x^2\ 16}$.

4. Multiply x^2-x+1 by $x^{-2}+x^{-1}+1$.

5. Divide $a^{-3}+b^{-3}+c^{-3}-\frac{3}{abc}$ by $\frac{1}{a}+\frac{1}{b}+\frac{1}{c}$.

6. Find the cube root of $a^6-6a^5b+15a^4b^2-20a^3b^3+15a^2b^4-6ab^5+b^6$.

7. Find the sum of $\frac{a}{a+\sqrt{a^2-x^2}}$ and $\frac{a}{a-\sqrt{a^2-x^2}}$.

8. Find the sum of $4\sqrt{-27}$ and $3\sqrt{-16}$.

9. Given $\left\{\begin{array}{l} 2x+\frac{y+z}{3}=12 \\ 2y+\frac{x+z}{4}=\frac{25}{4} \\ 2z+\frac{x+y}{7}=9 \end{array}\right\}$ to find x, y and z.

10. Given $\frac{x+a}{x\ 2a}+\frac{x-2a}{x+a}=1$ to find the value of x.

3. ARITHMETIC.

1. Divide $\frac{3\frac{3}{4}}{4\frac{5}{7}}$ by $\frac{2\frac{5}{8}}{3\frac{2}{5}}$.

2. Divide the difference between eight tenths and one millionth by seventy-nine thousandths.

3. How many bushels will a box hold which is 4 ft. 9 in. long, 3 ft. 8 in. wide, and 2 ft. 7 in. high?

4. Find the amount of $469.10 for 3 yrs. 2 mo. 15 da. at 7%.

5. At what rate will $530, in 3 yrs. 6 mo., yield $92.75 interest?

6. What is the compound interest of $630 for 4 years at 5% interest payable every six months?

7. Find the present worth of $622.75 due in 3½ years hence at 5%.

8. I give my note at bank for ninety days and receive $600, the note being discounted at 6%; for what sum must it be drawn?

9. Bought a horse for $150 and sold him for $165; what was the gain per cent.?

10. Find the cube root of 2,357,947,691.

CALENDAR FOR 1887-8.

FIRST TERM.

The first term, fifteen weeks, begins Thursday, September 8, 1887, and ends Wednesday, December 21, 1887.

SECOND TERM.

The second term, twelve weeks, begins Wednesday, January 4, 1888, and ends Friday, March 23, 1888.

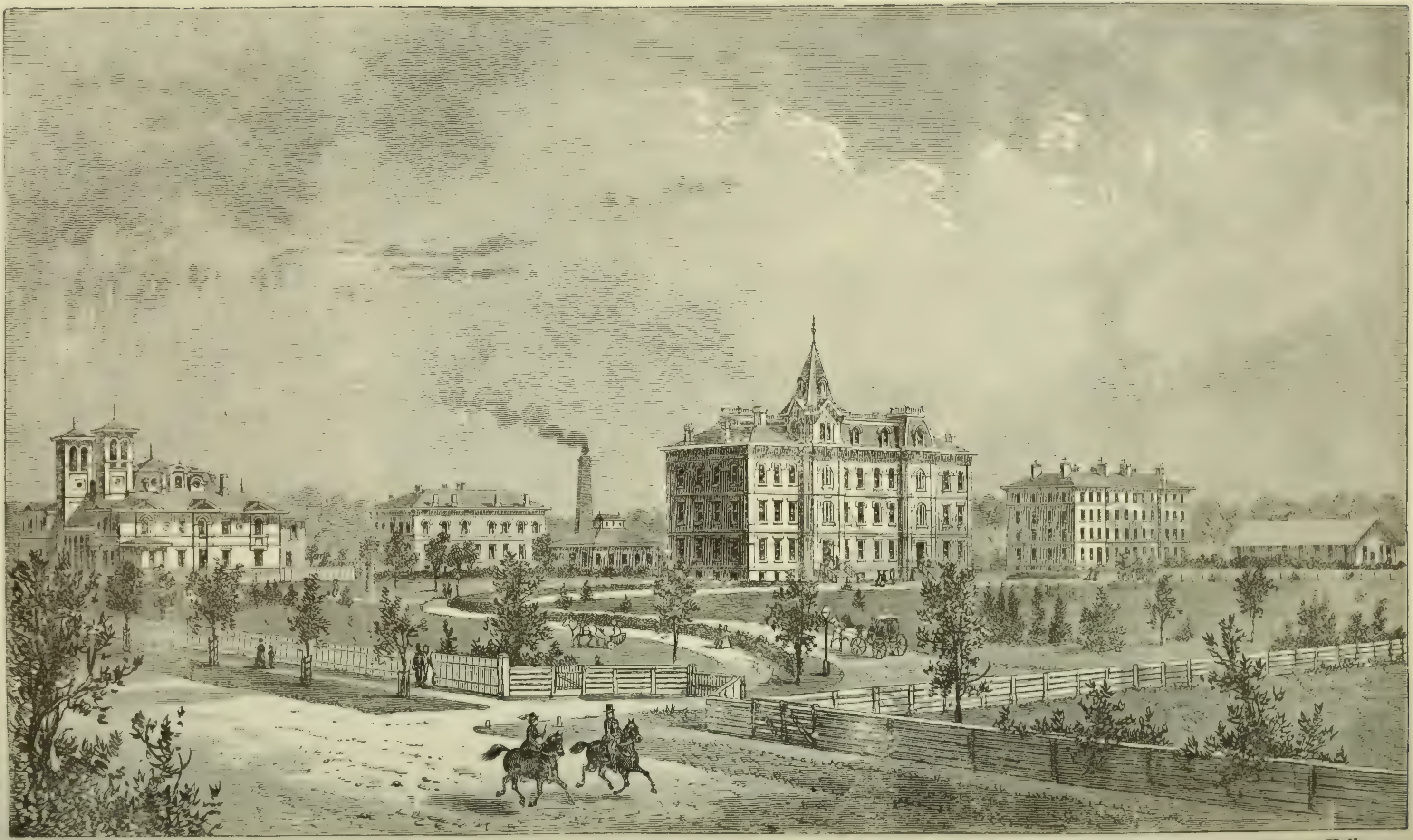
THIRD TERM.

The third term, eleven weeks, begins Monday, March 26, 1888, and ends Thursday, June 7, 1888.

COMMENCEMENT, THURSDAY, JUNE 7, 1888.

EXHIBITIONS.

The annual entertainments of the Literary Societies are held the second week of the third term.


Boarding House.
Industrial Art Hall
Ladies' Hall.
Laboratory.
Engine House.
University Hall.
Men's Dormitory.
Military Hall.

PURDUE UNIVERSITY, LAFAYETTE, IND.

THE

ANNUAL REGISTER

OF

PURDUE UNIVERSITY

LAFAYETTE, INDIANA.

1887-89.

INDIANAPOLIS:
WM. B. BURFORD, PRINTER, LITHOGRAPHER AND BINDER.
1888.

CALENDAR FOR 1888-89

Session Days indicated by Bold-face Figures.

JULY TO DECEMBER, 1888.

JULY.

S	M	T	W	T	F	S
1	*2*	*3*	*4*	*5*	*6*	*7*
8	*9*	*10*	*11*	*12*	*13*	*14*
15	*16*	*17*	*18*	*19*	*20*	*21*
22	*23*	*24*	*25*	*26*	*27*	*28*
29	*30*	*31*	..	..	..	..
..	..	..	..	..	..	..

AUGUST.

S	M	T	W	T	F	S
..	..	..	*1*	*2*	*3*	*4*
5	*6*	*7*	*8*	*9*	*10*	*11*
12	*13*	*14*	*15*	*16*	*17*	*18*
19	*20*	*21*	*22*	*23*	*24*	*25*
26	*27*	*28*	*29*	*30*	*31*	..
..	..	..	..	..	..	..

SEPTEMBER.

S	M	T	W	T	F	S
..	..	..	..	..	..	*1*
2	*3*	*4*	*5*	**6**	**7**	*8*
9	**10**	**11**	**12**	**13**	**14**	*15*
16	**17**	**18**	**19**	**20**	**21**	*22*
23	**24**	**25**	**26**	**27**	**28**	*29*
30	..	..	..	..	..	..

OCTOBER.

S	M	T	W	T	F	S
..	**1**	**2**	**3**	**4**	**5**	*6*
7	**8**	**9**	**10**	**11**	**12**	*13*
14	**15**	**16**	**17**	**18**	**19**	*20*
21	**22**	**23**	**24**	**25**	**26**	*27*
28	**29**	**30**	**31**	..	..	..
..	..	..	..	..	..	..

NOVEMBER.

S	M	T	W	T	F	S
..	..	..	..	**1**	**2**	*3*
4	**5**	**6**	**7**	**8**	**9**	*10*
11	**12**	**13**	**14**	**15**	**16**	*17*
18	**19**	**20**	**21**	**22**	**23**	*24*
25	**26**	**27**	**28**	*29*	*30*	..
..	..	..	..	..	..	..

DECEMBER.

S	M	T	W	T	F	S
..	..	..	..	..	..	*1*
2	**3**	**4**	**5**	**6**	**7**	*8*
9	**10**	**11**	**12**	**13**	**14**	*15*
16	**17**	**18**	**19**	*20*	*21*	*22*
23	*24*	*25*	*26*	*27*	*28*	*29*
30	*31*	..	..	..	..	..

JANUARY TO JUNE, 1889.

JANUARY.

S	M	T	W	T	F	S
..	..	*1*	*2*	**3**	**4**	*5*
6	**7**	**8**	**9**	**10**	**11**	*12*
13	**14**	**15**	**16**	**17**	**18**	*19*
20	**21**	**22**	**23**	**24**	**25**	*26*
27	**28**	**29**	**30**	**31**	..	..
..	..	..	..	..	..	..

FEBRUARY.

S	M	T	W	T	F	S
..	..	..	..	..	**1**	*2*
3	**4**	**5**	**6**	**7**	**8**	*9*
10	**11**	**12**	**13**	**14**	**15**	*16*
17	**18**	**19**	**20**	**21**	*22*	*23*
24	**25**	**26**	**27**	**28**	..	..
..	..	..	..	..	..	..

MARCH.

S	M	T	W	T	F	S
..	..	..	..	..	**1**	*2*
3	**4**	**5**	**6**	**7**	**8**	*9*
10	**11**	**12**	**13**	**14**	**15**	*16*
17	**18**	**19**	**20**	**21**	**22**	*23*
24	**25**	**26**	**27**	**28**	**29**	*30*
31	..	..	..	..	..	..

APRIL.

S	M	T	W	T	F	S
..	**1**	**2**	**3**	**4**	**5**	*6*
7	**8**	**9**	**10**	**11**	**12**	*13*
14	**15**	**16**	**17**	**18**	**19**	*20*
21	**22**	**23**	**24**	**25**	**26**	*27*
28	**29**	**30**	..	..	..	..
..	..	..	..	..	..	..

MAY.

S	M	T	W	T	F	S
..	..	..	**1**	**2**	**3**	*4*
5	**6**	**7**	**8**	**9**	**10**	*11*
12	**13**	**14**	**15**	**16**	**17**	*18*
19	**20**	**21**	**22**	**23**	**24**	*25*
26	**27**	**28**	**29**	**30**	**31**	..
..	..	..	..	..	..	..

JUNE.

S	M	T	W	T	F	S
..	..	..	..	..	..	*1*
2	**3**	**4**	**5**	**6**	*7*	*8*
9	*10*	*11*	*12*	*13*	*14*	*15*
16	*17*	*18*	*19*	*20*	*21*	*22*
23	*24*	*25*	*26*	*27*	*28*	*29*
30	..	..	..	..	..	..

BOARD OF TRUSTEES.

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CALENDAR FOR 1888-9.

FIRST TERM.

The first term, fifteen weeks, begins Thursday, September 6, 1888, and ends Wednesday, December 19, 1888.

SECOND TERM.

The second term, twelve weeks, begins Thursday, January 3, 1889, and ends Friday, March 22, 1889.

THIRD TERM.

The third term, eleven weeks, begins Monday, March 25, 1889, and ends Thursday, June 6, 1889.

COMMENCEMENT, THURSDAY, JUNE 6, 1889.

EXHIBITIONS.

The annual entertainments of the Literary Societies are held the second week of the third term.

PURDUE UNIVERSITY.

FACULTY.

James H. Smart, LL.D.,
President,
191 Columbia st.

Langdon S. Thompson, A.M.,
Professor of Industrial Art,
Cor. Tinkler and Coffroth ave.

William F. M. Goss,
Professor of Practical Mechanics,
"Bluffs," Chauncey.

Moses C. Stevens, A.M.,
Professor of Mathematics,
Opposite Fair Grounds.

William C. Latta, M.S.,
Professor of Agriculture and Farm Superintendent,
College Farm.

Oscar J. Craig, A.M.,
Professor of Political Economy and History,
South st., Chauncey.

James Troop, M.S.,
Professor of Horticulture and Entomology,
423 South st., Chauncey.

Henry A. Huston, A.M., A.C.,
Professor of Physics and Superintendent State Weather Service,
Cor. 6th and Main sts.

Arthur L. Green, Ph.C.,
Professor of Pharmacy,
"Bluffs," Chauncey.

John Ulric Nef, A.B., Ph.D.,
Professor of Chemistry,
39 N. 6th st.

Mrs. Emma Mont. McRae,
Professor of English Literature, and Lady Principal,
Ladies' Hall.

*Joseph C. Arthur, D.Sc.,
Professor of Botany,
South st., Chauncey.

William H. P. Creighton, U. S. N.,
Professor of Mechanical Engineering,
South st., Chauncey.

Alfred E. Phillips, C.E.,
Professor of Civil Engineering,
Industrial Art Hall.

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*After January 1, 1888, Professor of Vegetable Physiology and Pathology.

*Stanley Coulter, A.M.,
Professor of Zoology, and Assistant Principal Preparatory Class,
123 South st.

Mrs. Emma P. Ewing,
Professor of Domestic Economy,
Ladies' Hall.

Theries D. Hinebauch, M.S., D.V.S.,
Professor of Veterinary Science,
423 South st., Chauncey.

Augusta N. Jones,
Instructor in French and German,
Ladies' Hall.

Bertha A. Reynolds,
Instructor in Literature and Elocution,
210 South 5th st.

Michael Golden,
Instructor in Wood Shop and Foundry,
419 South st., Chauncey.

William P. Turner,
Instructor in Forging and Machine Work.
Columbia st., Chauncey.

John Hurty, M.D.,
Special Lecturer in Pharmacy,
Indianapolis.

Otto G. Zerse, Ph.C.,
Special Lecturer in Materia Medica,
Cor. 6th and Main sts.

William Doehne, Ph.C.,
Assistant in Chemical Laboratory,
Annie E. Baker, B.S.,
Assistant Instructor in Wood Carving,
Ladies' Hall.

Richard W. Swan, A.M.,
Librarian and Registrar,
South st., Chauncey.

EMPLOYES.

Louis Bianchi,
Engineer and Superintendent of Buildings.

Pierre Van Landeghem,
Florist and Gardener.

Patrick Tracey,
Janitor.

Professors Latta, Troop, Huston, Arthur and Hinebauch are connected with the Purdue Experiment Station, and spend but a small part of their time in University work.

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*After January 1, 1888, Professor of Biology.

ORGANIZATION OF THE PURDUE EXPERIMENT STATION, UNDER A LAW OF CONGRESS.

THE BOARD OF CONTROL,

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BOTANIST.

FRANCIS M. WEBSTER,
U. S. DEPARTMENT ENTOMOLOGY, ENTOMOLOGIST.

THERIES D. HINEBAUCH, B. S., D. V. S.,
VETERINARIAN.

PIERRE VAN LANDEGHEM,
FLORIST.

GENERAL AND SPECIAL ANNOUNCEMENTS.

PURDUE UNIVERSITY is a State Institution. It is supported by legislative appropriations and by the proceeds of an endowment fund granted by the General Government. It derives its name through legislative enactment from John Purdue, who gave to the State for the use of the Institution two hundred and twenty thousand dollars. It has a permanent endowment fund to the amount of three hundred and forty thousand dollars, and other non-productive property in buildings, lands and equipment to the value of three hundred and thirty thousand dollars.

It has one hundred and eighty acres of land in its campus and farm, fifteen buildings, well equipped laboratories, shops, museums, library, and reading rooms.

Its purpose is to afford the young men and women of Indiana an opportunity to acquire a good collegiate education in Mathematics, Science, Literature and Art, and at the same time to secure instruction and practice in such lines of work as will fit them to engage in the practical industries of life. The instruction is both theoretical and practical. The usual methods of text-book study, recitation and lecture are employed, but the student is required to put into practice as far as possible the instruction which he receives. He, for example, not only receives instruction in regard to the theory and principles of drawing, pattern making and machine construction, but he is required to make working drawings himself, to construct patterns, to make the castings in the foundry, to finish and set up the machine, and to operate it when it is completed. This combination of the theoretical and the practical, characterizes the Institution.

Being a State Institution, the instruction in Purdue University is free to all residents of Indiana of suitable age and acquirements. Small laboratory, library and incidental fees only are charged.

The Institution embraces Six Special Schools and a Preparatory Department, as follows:

I. *A School of Agriculture, Horticulture* and *Veterinary Science.*
  Leading to the Degree of Bachelor of Science.

II. *A School of Mechanical Engineering.*
  Leading to the Degree of Bachelor of Mechanical Engineering.

III. *A School of Civil Engineering.*
  Leading to the Degree of Bachelor of Civil Engineering.

IV. *A School of Science.*
  Leading to the Degree of Bachelor of Science.
  By *elections* in the Junior and Senior years this school may be developed into
  (*a*) *A School of Biology,*
  (*b*) *A School of Chemistry,*
  (*c*) *A School of Applied Electricity,*
  (*d*) *A School of Literature and History,*
  in which one or the other of these subjects may occupy the greater part of the student's time.

V. *A School of Industrial Art.*
  Leading to the Degree of Bachelor of Science.

VI. *A School of Pharmacy.*
  Leading to the Degree of Graduate in Pharmacy.

VII. *A Preparatory Department.*

The courses of instruction in the first five special schools are so arranged that they include, with few exceptions, the same instruction in general science, mathematics, English, history, political and mental science, and industrial drawing. In addition to these branches common to the five schools, the School of Agriculture adds four years of instruction and practice in agriculture, horticulture and veterinary science; the School of Mechanical Engineering, two years of instruction and practice in practical mechanics and two years of mechanical engineering; the School of Civil Engineering, five terms of instruction and practice in practical mechanics and seven terms of civil engineering; the School of Science, four years in laboratory work in the natural and physical sciences; and the School of Industrial Art, four years of instruction and training in industrial art.

Students in each of these schools are now required to spend in laboratory, shop or field an average of two hours each day in such forms of handwork as will fit them to engage in industrial pursuits.

A careful study of the courses of instruction and practice will show that they embrace a wide range of subjects, and lead to a still wider range of industries. We are thus enabled to recognize, to a considerable degree, special aptitudes and inclinations on the part of the students.

The School of Pharmacy affords instruction in chemistry, pharmacy, materia medica, botany, etc., with a large amount of laboratory practice for two annual sessions of six months each.

The Preparatory Class offers a thorough drill in the common English branches, quite complete in itself, but which is designed to prepare students to enter either of the first five schools of the University.

Special attention is called to the fact that the Trustees have recently created a Chair of Veterinary Science, and that the School of Agriculture has been strengthened by the introduction of a large amount of instruction and practice in those branches that are of especial interest to stock raisers.

The Department of Physics has already been strengthened by the addition of a large amount of Physical Apparatus During the past year our plant has been more than doubled, and still further additions have been ordered by the Board. Many of the pieces have been purchased in sets of four each in order to afford advanced students an opportunity for independent research and to fit themselves to become electrical engineers.

Attention is also called to the increased facilities offered to those who desire to pursue post-graduate work, and to the course of instruction provided to persons who wish to become teachers in manual training schools.

THE COURSES OF STUDY are given on the following pages. The figures indicate the number of exercises per week.

All selections for electives must be made under advice of the Faculty, and no new classes will be formed of less than three students.

SCHOOL OF AGRICULTURE.

FRESHMAN YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M.	3:30 P. M. TO 5:30 P. M.
1st Term, 15 w.	Farm Stock (8 w.). 3 Farm Crops (7 w.). 3	Model-Drawing in Outline. 5	Geometry 1st Sec. 5 Rhetoric 2d Sec. 3 Elocution. 1	Geometry 2d Sec. 5 Rhetoric 1st Sec. 3		
2d Term, 12 w.	Shop-Work. 4		Geometry 1st Sec. 5 Rhetoric 2d Sec. 3 Elocution. 1	Geometry 2d Sec. 5 Rhetoric 1st Sec. 3	Stock-Breeding. 2	
3d Term, 11 w.	Shop-Work. 3		Algebra 1st Sec. 5 Rhetoric 2d Sec. 3 Veterinary Anat. 2	Algebra 2d Sec. 5 Rhetoric 1st Sec. 3	Botany. 5	

SOPHOMORE YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M.	3:30 P. M. TO 5:30 P. M.
1st Term, 15 w.	English Literature. 3	Higher Algebra (12 w.). 5 Trigonometry (3 w.). 5	†Farm Management (7 w.). 2½	Physics. 4	Veterinary Anatomy (8 w.). 2½ Zoölogy. 2½	
2d Term, 12 w.	Eng. Literature (4 w.). 3 History (8 w.). 3 Elocution (8 w.). 1	Trigonometry (8 w.). 5 Surveying (4 w.) 5	Vegetable Gardening. 2½	Physics. 4	Zoölogy (4 w.). 2½ Botany (8 w.). 2½	
3d Term, 11 w.	History. 3 Elocution. 1	Surveying. 5	Farm Economy. 2	Veterinary Anatomy. 3	Botany. 2½	

† Alternate days.

JUNIOR YEAR.

1st Term, 15 w.	‖ Farm Drainage (7 w.). 2 Fruit Culture (8 w.). 5	*Elective. 4 or P. M. Elective.	Chemistry. 5	Chemistry. 3	Veterinary Surgery. 4	Elective, 4 or A. M. Elective.
2d Term, 12 w.	Economic Botany. 5	Elective, 4 or P. M. Elective.	Chemistry. 5	Chemistry. 3		Elective, 4 or A. M. Elective.
3d Term, 11 w.	Diseases of Cattle. 4	Elective, 4 or P. M. Elective.	Agricultural Chemistry. 5	Agricultural Chemistry. 3	‖ Economic Entomology. 5	Elective, 4 or A. M. Elective.

‖ With occasional field work.

* Juniors must select one of the following subjects: 1. Botany; 2. Zoölogy; 3. Shop-work (first half year); 4. History (first half year).

SENIOR YEAR.

1st Term, 15 w.		**Elective. 4		Human Physiology. 4	Elective. 4	Practice of Veterinary Medicine and Materia Medica. 4
2d Term, 12 w.		Elective. 4		Human Physiology (4 w.). 4 Geology (8 w.). 4	Elective. 4	Diseases of Horses and Stock Breeding. 4
3d Term, 11 w.		Principles of Agriculture, Feeding and Dairying. 3		Geology. 4	Elective. 4	Land-scape Gardening and Forestry. 4

**Seniors must choose work to occupy the time marked *elective* from the following subjects: Botany, Zoölogy, Chemistry, Literature, German, Psychology (first half year), Political Economy (second half year).

SCHOOL OF MECHANICAL ENGINEERING.

FRESHMAN YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M. OR 3:30 P. M TO 5:30 P. M.
1st Term, 15 w.	Wood-working Tools. Elements of Construction. } 3 Mechanical Drawing. 2	Model-Drawing in Outline. 5	Geometry 1st Section. 5 Rhetoric 2d Section. 3 Elocution. 1	Geometry 2d Section. 5 Rhetoric 1st Section. 3	Bench-Work in Wood. Wood-Turning. } 5
2d Term. 12 w.	Theory of Pattern-Making. Hand Tools for Metal. } 3 Mechanical Drawing. 2	Mechanical Drawing. 2	Geometry 1st Section. 5 Rhetoric 2d Section. 3 Elocution. 1	Geometry 2d Section. 5 Rhetoric 1st Section. 3	Pattern-Making. 4 Molding and Casting. 1
3d Term, 11 w.	Mechanical Drawing. 5	Mechanical Drawing. 5	Algebra 1st Section. 5 Rhetoric 2d Section. 3	Algebra 2d Section. 5 Rhetoric 1st Section. 3	Pattern-Making. 4 Molding and Casting. 1

SOPHOMORE YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3:30 P. M. OR 3:30 P. M TO 5:30 P. M.
1st Term, 15 w.	English Literature. 3	Higher Algebra (12 w.). 5 Trigonometry (3 w.). 5	Mechanical Drawing. 5	Physics. 4	Iron and Steel Forging. 5
2d Term, 12 w.	Eng. Literature (4 w.). 3 History (8 w.). 3	Trigonometry (8 w.). 5 Surveying (4 w.). 5	Theory of Machine Work. 2 Mechanical Drawing. 3	Physics. 4	Machine-Work. Vise-Work in Iron. } 5
3d Term, 11 w.	History. 3	Surveying. 5	Machines and Machine Work. 2 Mechanical Drawing. 3	Physics. 4	Machine Work. Vise-Work in Iron. } 5

JUNIOR YEAR.

1st Term, 15 w.	Analytical Geometry. 4 Determinants. 1	Descriptive Geometry. 4 Heat. 1	Chemistry. 5	Chemistry. 3	Descriptive Geometry. 3 Heat. 1
2d Term, 12 w.	An. Geometry (5 w.). 4 Determinants (5 w.). 1 Calculus (7 w.). 5	Principles of Mechanism. 4 Heat. 1	Chemistry. 5	Chemistry. 3	Mechanical Drawing. 1 Heat. 1
3d Term, 11 w.	Calculus. 5	Principles of Mechanism. 2 Metallurgy. 3	Metallurgical Chemistry. 4	Metallurgical Chemistry. 4	Mechanical Drawing. 4

SENIOR YEAR.

1st Term, 15 w.	Analytical Mechanics. 5	*Elective. 4	Elective. 2	Steam Engine. 4	Mechanical Drawing and Experimental Work in Engineering. 5
2d Term, 12 w.	An. Mechanics (4 w.) 5 Political Economy (8 w.) 4	Elective. 4	Elective. 2	Steam Boilers (6 w.). 5 Strength of Materials (6 w.). 5	Mechanical Drawing and Experimental Work in Engineering. 5
3d Term, 11 w.	Political Economy. 4	Elective. 4	Elective. 2	Machine Design. 5	Mechanical Drawing and Experimental Work in Engineering. 5

* Seniors must elect one of the following: Literature, German, or Applied Electricity.

SCHOOL OF CIVIL ENGINEERING.

FRESHMAN YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 3 30 P. M., OR 3:30 P. M. TO 5:30 P. M.
1st Term, 15 w.	Wood working Tools. Elements of Construction. } 3 Mechanical Drawing. 2	Model-Drawing in Outline. 5	Geometry 1st Section. 5 Rhetoric 2d Section. 3 Elocution. 1	Geometry 2d Section. 5 Rhetoric 1st Section. 5	Bench-work in Wood. Wood-Turning. } 5
2d Term, 12 w.	Theory of Pattern-Making. Hand Tools for Metal. } 3 Mechanical Drawing. 2	Mechanical Drawing. 2	Geometry 1st Section: 5 Rhetoric 2d Section. 3 Elocution. 1	Geometry 2d Section. 5 Rhetoric 1st Section. 3	Pattern-Making. 4 Molding and Casting. 1
3d Term, 11 w.	Mechanical Drawing. 5	Mechanical Drawing. 5	Algebra 1st Section. 5 Rhetoric 2d Section. 3	Algebra 2d Section. 5 Rhetoric 1st Section. 3	Pattern-Making. 4 Molding and Casting. 1

SOPHOMORE YEAR.

1st Term, 15 w.	English Literature. 3	Higher Algebra (12 w.). 5 Trigonometry (3 w.). 5	Mechanical Drawing. 5	Physics. 4	Iron and Steel Forging. 5
2d Term, 12 w.	Eng. Literature (4 w.). 3 History (8 w.). 3	Trigonometry (8 w.). 5 Surveying (4 w.). 5	Theory of Machine Work. 2 Mechanical Drawing. 3	Physics. 4	Machine-Work. Vise-Work in Iron. } 5
3d Term, 11 w.	History. 3	Surveying. 5		Physics. 4	Surveying. 5

JUNIOR YEAR.

1st Term, 15 w.	Analytical Geometry. 4 Determinants. 1	Descriptive Geometry. 4	Chemistry. 5	Chemistry. 3	Roads and Railroads. 4
2d Term, 12 w.	An. Geometry (5 w.). 4 Determinants. 1 Calculus (7 w.). 5	Principles of Mechanism. 4	Chemistry. 5	Chemistry. 3	Stereotomy. 1
3d Term, 11 w.	Calculus. 5	Principles of Mechanism. 2 Metallurgy. 3	Metallurgical Chemistry. 4	Metallurgical Chemistry. 4	Stereotomy. 2 Mechanical Drawing. 2

SENIOR YEAR.

1st Term. 15 w.	Analytical Mechanics. 5	Graphical and Analytical Statics. 4	Mechanics of Engineering. 4	Steam Engine. 4	Engineering Designing. 4
2d Term 12 w.	An. Mechanics (4 w.). 5 Political Economy (8 w.). 4	Geodesy (8 w.). 3 Astronomy (4 w.). 4	Graphical and Analytical Statics. 4	Roads and Pavements (4 w.). 5 Geology (8 w.). 4	Engineering Designing. 4
3d Term. 11 w.	Political Economy. 4	Astronomy. 4	Architecture 2	Geology. 4	Engineering Designing. 5

SCHOOL OF SCIENCE.

FRESHMAN YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 2:30 P. M.	2:30 P. M. TO 3:30 P. M.
1st Term, 15 w.		Model Drawing in Outline. 5	Geometry 1st Sec. 5 Rhetoric 2d Sec. 3 Elocution. 1	Geometry 2d Sec. 5 Rhetoric 1st Sec. 3	French or German. 5	
2d Term, 12 w.		Linear Perspective. 5	Geometry 1st Sec. 5 Rhetoric 2d Sec. 3 Elocution. 1	Geometry 2d Sec. 5 Rhetoric 1st Sec. 3	French or German. 5	
3d Term, 11 w.		Orthographic Projection. 5	Algebra 1st Sec. 5 Rhetoric 2d Sec 3 French or German. 2	Algebra 2d Sec. 5 Rhetoric 1st Sec. 3	Botany. 5	

SOPHOMORE YEAR.

1st Term, 15 w.	English Literature. 3	Higher Algebra (12 w.). 5 Trigonometry (3 w.). 5	French or German. 2½	Physics. 4	Zoölogy. 2½	
2d Term, 12 w.	English Literature (4 w.). 3 History (8 w.). 3 Elocution 8 w.). 1	Trigonometry (8w.). 5 Surveying (4 w.). 5	French or German. 2½	Physics. 4	Zoölogy (4 w.). Botany (8 w.). 2½	
3d Term, 11 w.	History. 3 Elocution. 1	Surveying. 5	French or German. 2½	Physics. 4	Botany. 2½	

JUNIOR YEAR.

1st Term, 15 w.	Elective. 4	*Elective, Or P. M. Elective. 4	Chemistry. 5	Chemistry. 3	Elective, Or A. M. Elective. 4
2d Term, 12 w.	Elective. 4	Elective, Or P. M. Elective. 4	Chemistry. 5	Chemistry. 3	Elective, Or A. M. Elective. 4
3d Term, 11 w.	Elective. 4	Elective, Or P. M. Elective. 4	Applied Chemistry. 5	Applied Chemistry. 3	Elective, Or A. M. Elective. 4

*Juniors must also elect three of the following, viz.: 1. History and Literature; 2. Mathematics; 3. French or German: 4 Physics; 5 Botany; 6. Zoölogy; 7. Chemistry.

SENIOR YEAR.

1st Term, 15 w.	Psychology. 4	*Elective. 4	Human Physiology. 4	Elective. 4
2d Term, 12 w.	Psychology (4 w.). 4 Political Economy (8 w.). 4	Elective. 4	Human Physiology (4 w.). 4 Geology (8 w.). 4	Elective. 4
3d Term, 11 w.	Political Economy. 4	Elective. 4	Geology. 4	Elective. 4

*Seniors must elect two of the following, viz.: 1. Applied Electricity; 2. Chemistry; 3. Botany; 4. Zoölogy; 5. Literature.

SCHOOL OF INDUSTRIAL ART.

FRESHMAN YEAR.

HOURS.	8:15 A. M. TO 9:15 A. M.	9:15 A. M. TO 10:15 A. M.	10:30 A. M. TO 11:30 A. M.	11:30 A. M. TO 12:30 P. M.	1:30 P. M. TO 2:30 P. M.	2:30 P. M. TO 3:30 P. M.
1st Term, 15 w.		Model-Drawing in Outline. 5	Geometry 1st Sec. 5 Rhetoric 2d Sec. 3 Elocution. 1	Geometry 2d Sec. 5 Rhetoric 1st Sec. 3	French or German. 5	
2d Term, 12 w.		Linear Perspective. 5	Geometry 1st Sec. 5 Rhetoric 2d Sec. 3 Elocution. 1	Geometry 2d Sec. 5 Rhetoric 1st Sec. 3	French or German. 5	
3d Term, 11 w.		Orthographic Projection. 5	Algebra 1st Sec. 5 Rhetoric 2d Sec. 3 French or German. 2	Algebra 2d Sec. 5 Rhetoric 1st Sec. 5	Light and Shade. 5	

SOPHOMORE YEAR.

1st Term, 15 w.	English Literature. 3	Higher Algebra (12 w.). 5 Trigonometry (3 w.). 5	German or French. 2½	Physics. 4	Light and Shade. 2½	
2d Term, 12 w.	Eng. Lit. (4 w.). 3 History (8 w.). 3 Elocution (8 w.). 1	Trigonometry (8 w.). 5 Art Work (4 w.). 5	German or French. 2½	Physics. 4	Color. 2½	
3d Term, 11 w.	History. 3 Elocution. 1	Art Work 5	German or French. 2½	Physics. 4	Color. 5	

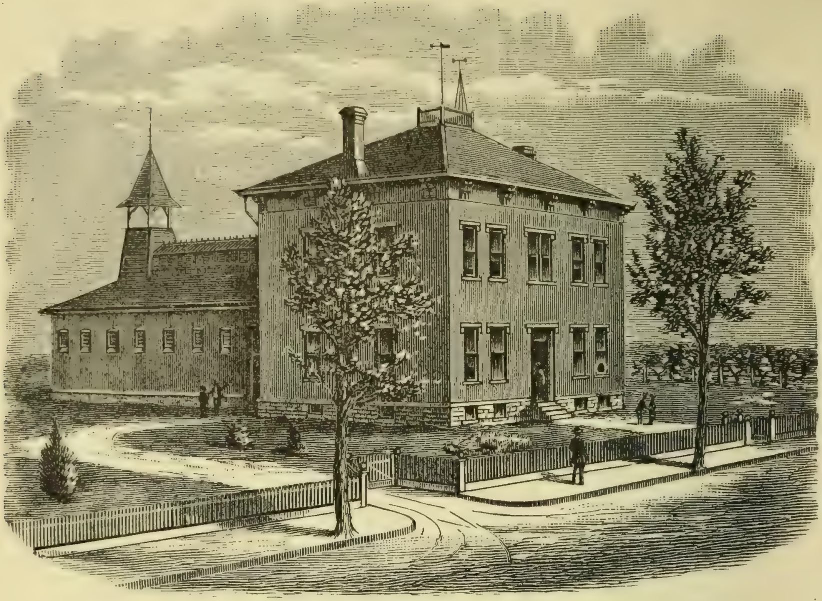
JUNIOR YEAR.

1st Term, 15 w.	Elective. 4.	Elective. 4	Chemistry. 5	Chemistry. 3	Wood-Carving or Clay-Modeling, and Hist. Ornament. 5
2d Term, 12 w.	Elective. 4	Elective. 4	Chemistry. 5	Chemistry. 3	Wood-Carving or Clay-Modeling, and Hist. Ornament. 5
3d Term, 11 w.	Elective. 4	Elective. 4	Applied Chemistry. 5	Applied Chemistry. 3	Wood-Carving or Clay-Modeling, and Hist. Ornament. 5

Juniors must select two of the following: 1. Analytics and Calculus; 2. History and Literature; 3. French or German.

SENIOR YEAR.

1st Term, 15 w.	Psychology. 4		Literature or Art Work. 4	Human Physiology. 4	Wood-Carving or Clay-Modeling and Decorative Design. 4
2d Term, 12 w.	Psychology (4 w.). 4 Political Economy (8 w.). 4		Literature or Art Work. 4	Human Physiology (4 w.). 4 Geology (8 w.). 4	Wood-Carving or Clay Modeling and Decorative Design. 4
3d Term 11 w.	Political Economy. 4		Literature or Art Work. 4	Geology. 4	Wood-Carving or Clay-Modeling and Decorative Design. 4



AGRICULTURAL HALL.

COURSES OF STUDY.

SCHOOL OF AGRICULTURE, HORTICULTURE AND VETERINARY SCIENCE.

The course of study in this school is designed to prepare young men for agricultural pursuits. The purpose is not to make farmers, fruit growers and stock breeders merely, but intelligent citizens as well. Hence, a wide range of instruction is afforded in both general and special subjects. Those subjects which relate more directly to agriculture are sufficiently outlined below to indicate the nature and scope of the instruction given.

As far as possible the special subjects are taken up at the most favorable time of the year, and in their proper relation to the purely scientific studies. The class-room instruction is supplemented by field and shop work.

The course of study is, as follows:

FRESHMAN YEAR.

AGRICULTURE.—Farm Crops.—Seven weeks, three hours per week. Staple and special; planting, cultivating and harvesting; feeding and selling; reasons for change of crops; crop rotations adapted to the different soils and climatic conditions.

Farm Stock.—Eight weeks, three hours per week. History and characteristics of the various improved breeds of domestic animals, with their adaptations to soil, climate and the various purposes of the breeder.

Professor Latta.

VETERINARY SCIENCE.—Stock Breeding.—Twelve weeks, two times per week. Principles underlying the art; laws of heredity; relation of cross-breeding and in-breeding to constitutional vigor, prepotency, etc.; means of improving our domestic animals.

Veterinary Anatomy.—Eleven weeks, two hours per week. Lectures illustrated by skeleton and diagram.

Professor Hinebauch.

BOTANY.—Eleven weeks, ten hours per week. See Botany, page 40.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 54.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 54.

RHETORIC.—Thirty-eight weeks, three hours per week. See Literature, page 51.

ELOCUTION.—Twenty-seven weeks, one hour per week.

DRAWING.—Fifteen weeks, five hours per week. See **Model Drawing in Outline,** page 47.

SHOP-WORK.—Carpentry and Joining.—Twelve weeks, eight hours per week, and eleven weeks, six hours per week. See Shop-work (a), page 26.

SOPHOMORE YEAR.

AGRICULTURE.—**Farm Management.**—Seven weeks, two and one-half hours per week. Various questions relating to the care of crops, stock, manures, buildings, fences, implements, etc.; permanent improvements. **Farm Economy.**—Eleven weeks, two hours per week. Various questions relating to farm accounts, buying and selling, farm law, etc., etc.

Professor Latta.

HORTICULTURE.—Twelve weeks, two and one-half hours per week. **Vegetable Gardening.**—Preparation of soil, planting, transplanting, cultivation, harvesting, marketing and winter preservation.

Professor Troop.

VETERINARY SCIENCE.—Eight weeks, two and one-half hours per week. Lectures on MYOLOGY and SPLANCHNOLOGY, illustrated by dissection and models. Eleven weeks, three hours per week. Lectures, ANGIOLOGY and NEUROLOGY. Illustrated by dissections and experiments.

Professor Hinebauch.

BOTANY.—Nineteen weeks, five hours per week. See Botany, page 41.

ZOOLOGY.—Nineteen weeks, five hours per week. See Zoölogy, page 41.

PHYSICS.—Twenty-seven weeks, four hours per week. See Physics, page 41.

ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 55.

TRIGONOMETRY.—Eleven weeks, five hours per week. See Mathematics, page 55.

SURVEYING.—Fifteen weeks, five hours per week.

ENGLISH LITERATURE.—Nineteen weeks, three hours per week. See Literature, page 51.

HISTORY.—Nineteen weeks, three hours per week. See History, page 53.

ELOCUTION.—Nineteen weeks, one hour per week.

JUNIOR YEAR.

AGRICULTURE.—Seven weeks, five hours per week. **Farm Drainage.**—Location, planning, leveling, construction and repairing of farm drains; sanitary drainage of farm buildings; road drainage.

Professor Latta.

HORTICULTURE.—**Fruit Culture.**—Eight weeks, five hours per week. Budding, grafting, layering and pruning; care and cultivation of fruit trees and vines; harvesting, packing, storing and marketing of fruits; orchard sites, etc.

Professor Troop.

VETERINARY SCIENCE.—Fifteen weeks, four hours per week. Lectures on the principles and practice of Veterinary Surgery, illustrated by pathological specimens and surgical operations. Free clinics eleven weeks, four hours per week; lectures on the principles and practice of Veterinary Medicine and Materia Medica.

Professor Hinebauch.

ECONOMIC BOTANY.—Twelve weeks, five hours per week. Study of noxious and useful plants of the farm, their characteristics, propagation, rate of increase and conditions of growth; time and manner of destroying weeds, etc.

Professor Troop.

ECONOMIC ENTOMOLOGY.—Eleven weeks, five hours per week. Study of beneficial and injurious insects; means of preventing or mitigating insect ravages.

Professor Troop.

CHEMISTRY.—General Chemistry, twenty-seven weeks, eight hours per week; and Agricultural Chemistry, eleven weeks, eight hours per week. See Chemistry, page 42.

ELECTIVE STUDIES.

Juniors must select work to occupy the time marked elective, in the daily programme, from the following subjects:

Botany, Zoölogy, Shop-work (first half year), History (first half year).

SENIOR YEAR.

AGRICULTURE.—Eight weeks, three hours per week. **Principles of Agriculture.**—Effects of tillage, manures, mulching, drainage, irrigation; nature and needs of soils and crops; soil exhaustion, renovation of soils, etc. **Principles of Feeding and Dairying.**—Laws of animal nutrition; feeding, rations for young, fattening, working and dairy animals; effects of dry, succulent, concentrated and bulky foods; economy in feeding; effects of food, exposure and treatment on the quantity and quality of milk; milk setting, butter and cheese-making; utilization of the by-products of the dairy.

Professor Latta.

HORTICULTURE.—Eight weeks, four hours per week. **Landscape Gardening.**—Laying out and ornamentation of grounds with trees, shrubs, flowers, lawns, etc. **Forestry.**—Effects of forests upon climate; reasons for forest-tree planting; trees for various locations and methods of growing the same.

Professor Troop.

VETERINARY SCIENCE.—Fifteen weeks, four hours per week. Obstetrics, care and management of pregnant animals, and attention to the offspring. Twelve weeks, four hours per week. Lectures on the diseases of cattle, sheep and swine.

Professor Hinebauch.

HUMAN PHYSIOLOGY.—Nineteen weeks, four hours per week. See Human Physiology, page 44.

GEOLOGY.—Sixteen weeks, four hours per week. See Geology, page 45.

ELECTIVE STUDIES.

Seniors must select work to occupy the time marked elective in the daily programme from the following subjects:

Botany, Zoölogy, Chemistry, Literature, German, Psychology (first half year), Political Economy (second half year).

MEANS OF ILLUSTRATION.

The college campus, greenhouse, nursery, orchard, experiment farm, and meteorological station afford facilities for practically illustrating the class-room instruction. The experimental grounds contain many varieties of grapes and small fruits, grains and grasses, which furnish ample means for observation and training in those branches especially adapted to the farmer and fruit grower.

There will be a museum connected with the department of veterinary science, containing skeletons of the various domestic animals, pathological specimens, dissections and models. Free clinics one day of each week. The senior students will receive the benefit of out-door practice.

The improved breeds of cattle on the College Farm, and in the vicinity of Lafayette, afford good opportunity for illustrating the class-room instruction on Live Stock and Stock Breeding. Occasional excursions are made to visit herds in this neighborhood. As far as practicable, labor will be furnished to students taking the Agricultural Course whenever it is desired. Students receive pay for all work not instructional.

SCHOOL OF MECHANICAL ENGINEERING.

The instruction in this school is arranged to respond to the present strong and growing demand for young men who understand practical mechanical construction, who are skilled in the use of tools, and who have been given such additional and advanced training that they may become, not merely constructors, but also inventors and designers of machinery.

During the first two years, special prominence is given to shop-work and the studies pertaining thereto, including instruction and practice in those underlying principles of the common trades, which, when taken together, form a basis for all lines of special mechanical work.

The last two years are specially devoted to the theory and practice of mechanical engineering.

The course of instruction is as follows:

FRESHMAN YEAR.

TECHNICAL INSTRUCTION. — Twenty-seven weeks, three hours per week. Under this head are comprised:

(a) *Lectures* developing the character of cutting edges for wood, the adjustment of different tools and the methods by which they are kept in order; also, lectures on the shrinkage and warping of woods; different forms, adaptation and relative strength of joints.

(b) *Lectures* on wood-working machines, including rotary and traverse planers; circular, scroll and band saws; and lathes and lathe attachments.

(c) *Lectures* on pattern-making, molding and casting.

Professor Goss.

MECHANICAL DRAWING.—Fifteen weeks, seven hours per week; twelve weeks, four hours per week; and eleven weeks, ten hours per week.

(a) *Model-drawing in outline*, see Industrial Art, page 47.

(b) *Drawings from copy* of the details of machines.

(c) *Drawings* for built-up pulley patterns, pipe bends, laggings, sweeps, patterns for sectional molding, and for other work of like character that may be done in the shop.

Professors Thompson and Goss.

SHOP-WORK.—Thirty-eight weeks, ten hours per week.

(a) *Exercises* in planing, sawing, rabbeting, plowing, notching, splicing, mortising, tenoning, dovetailing, framing, paneling, and in other work involving the common carpenter tools.

(b) *Exercises* in circular sawing, scroll sawing and turning.

(c) *Exercises* in pattern-making, including patterns and core boxes for pulleys, gears, columns, and pipe joints; complete sets of patterns for one or more machines are made by every class.

(d) *Exercises* in core-making, mold-making and casting; also in the management of cupola furnace and crucible furnace in melting iron and brass.

Instructor Golden.

RHETORIC.—Thirty-eight weeks, three hours per week. See Literature, page 51.

ELOCUTION.—Twenty-seven weeks, one hour per week.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 54.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 54.

SOPHOMORE YEAR.

TECHNICAL INSTRUCTION.—Twenty-three weeks, two hours per week.

(a) *Lectures* on the management of steel in forging, hardening, tempering and annealing.

(b) *Lectures* on hand-tools for metal.

(c) *Lectures* on machines and machine work.

Professor Goss.

MECHANICAL DRAWING.—Fifteen weeks, five hours per week; twelve weeks, three hours per week; and eleven weeks, four hours per week.

(a) *Drawings* to scale from parts of actual machines.

(b) *Ink-shading and tinting.* The representation of flat and curved surfaces by ink tints, and of engineering materials by colors.

Professor Goss.

SHOP-WORK.—Thirty-eight weeks, ten hours per week.

(a) *Iron-forging*, including exercises in heating, bending, drawing, upsetting, welding, annealing, and case hardening. About forty forgings are made, representing a large variety of operations.

(b) *Steel forging*, including the making and tempering of punches, drills, chisels, machine cutting-tools, gravers and springs.

(c) *Exercises* in vise work in iron, including surface chipping, key-seating, surface-filing, squaring and fitting, round-filing, sawing, scraping and polishing.

(d) *Machine work* in metals, including exercises in turning, planing, slotting, drilling, boring, fluting, etc. This practice is given in the construction of complete machines and appliances.

Instructor Turner.

ENGLISH LITERATURE.—Nineteen weeks, three hours per week. See Literature, page 52.

HISTORY.—Nineteen weeks, three hours per week. See History, page 53.

PHYSICS.—Thirty-eight weeks, four hours per week. See Physics, page 41.

HIGHER ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 54.

TRIGONOMETRY.—Eleven weeks, five hours per week. See Mathematics, page 55.

SURVEYING.—Fifteen weeks, five hours per week. See Sophomore Year, page 37.

JUNIOR YEAR.

DESCRIPTIVE GEOMETRY.—Fifteen weeks, ten hours per week. Instruction and practice in the methods of representing, by drawings, all geometrical magnitudes and the solution of problems relating to these magnitudes in space. This subject, including the principles of shades, shadows and perspective, is taught by lecture, the time allotted being equally divided between instruction in the class-room and the practical solution of original problems in the drawing-room.

Professor Creighton.

PRINCIPLES OF MECHANISM.—Twelve weeks, four hours per week, and eleven weeks, two hours per week. Under this head are studied the principles underlying the action of the elementary combinations of which all machines are composed. The communications of motion by gear-wheels, belts, cams, screws and link-work, the various means of producing definite changes of velocity, the different automatic feed motion, epicyclic trains, parallel motions, the principles of quick return movements, and the manner of designing trains of mechanism for various purposes, all form part of this subject.

Professor Creighton.

MECHANICAL DRAWING.—Twelve weeks, two hours per week, and eleven weeks, eight hours per week. The work in mechanical drawing is directly supplemental to the instruction in Principles of Mechanism.

The work includes drawings of epicycloidal and involute gear-wheels, drawings of pin-gearing, bevel-gearing, lobed wheels, cams, endless screws, and other elementary combinations. These drawings are not, in any sense, copies, being made by each student to correspond with data furnished him by the instructor. During the spring term each student makes complete working drawings of some existing machine, obtaining for himself all necessary data by direct measurement from the machine.

Professor Creighton.

METALLURGY.—Eleven weeks, three hours per week. The various fuels and refractory materials are first taken up, and their special fitness for different metallurgical operations is pointed out. The characteristics, composition and location of the principal iron ores are next examined, after which all the various operations in the manufacture and refining of iron and steel are explained in detail, according to the most modern practice. See also Chemistry, page 42.

Professor Creighton.

HEAT.—Twenty-seven weeks, three hours per week. Nature and effects of heat, temperature, measurement of heat, expansion, liquefaction, evaporation, latent heat, specific heat, conduction, convection, relation between heat and mechanical energy, principles of thermo-dynamics. The instruction will be given partly in the class-room and partly by experimental work in the Physical Laboratory.

Professor Huston.

CHEMISTRY.—General Chemistry, twenty-seven weeks, eight hours per week; and Metallurgical Chemistry, eleven weeks, eight hours per week. See Chemistry, page 42.

ANALYTICAL GEOMETRY.—Twenty weeks, four hours per week. Determinants, twenty weeks, one hour per week. See Mathematics, page 55.

CALCULUS.—Eighteen weeks, five hours per week. See Mathematics, page 55.

SENIOR YEAR.

ANALYTICAL MECHANICS.—Nineteen weeks, five hours per week. The work in this subject consists of mathematical investigations concerning the action of forces on solids, liquids and gases.

Professor Creighton.

STEAM ENGINE.—Fifteen weeks, four hours per week. The work begins with the study of the general theory of the steam engine and of its efficiency as a prime mover, including discussions of the laws of thermo-dynamics, the expansion of steam, jacketing, cushioning, action of fly-wheels, effect of clearance, effect of condensation in cylinder, and other similar subjects. The relative advantages of simple and compound, condensing and non-condensing engines, the principal types of modern engines, the various valve and cut-off motions, the method of determining the size of an engine to do any required work, and of calculating the sizes of all its parts, are all explained. Special attention is given to the steam engine indicator, and the student becomes thoroughly familiar with its use and the manner of interpreting its indications. Each student participates in a number of complete engine tests, determining the efficiency of a given engine under specified conditions.

Professor Creighton.

BOILERS.—Six weeks, five hours per week. The various modern forms of steam boilers are carefully studied, noting their advantages and disadvantages, and the methods employed in their construction. The number and size of tubes and flues, the thickness of plates, strength of different styles of riveting, kinds of bracing, amount of grate and heating surface, different kinds of steam and water gauges, safety valves and injectors; the causes of and methods of preventing foaming, incrustation and corrosion, the manner of setting boilers and of operating them with safety and economy, are all studied in detail. Each student participates in at least one complete boiler test, determining the evaporative power and economy of combustion of fuel of one or more boilers, under given conditions, and must also design and draw a boiler of a style and size chosen by the instructor.

Professor Creighton.

STRENGTH OF MATERIALS.—Six weeks, five hours per week. This subject includes the study of the strength, elasticity, and other physical properties of the various materials of construction, such as stone, wood, cast and wrought iron, steel, copper, brass, etc. Students acquire this information partly from text-books, but principally from actual experiments made by themselves with the powerful testing machine belonging to the Testing Laboratory. The proper forms for greatest strength under given conditions, as well as the laws governing deflection and elasticity, are deduced by theoretical investigation and verified by practical experiment.

Professor Creighton.

MACHINE DESIGN.—Eight weeks, five hours per week. During this time, exercises are given in the design of simple machines to do given work under specified conditions. The necessary motions are carefully laid out, and the sizes and proportions of the various parts are determined by calculation. Part of the time is devoted to the manner of arranging shops, the means of transmitting power over both short and long distances, and to the solution of some of the miscellaneous problems constantly arising before the mechanical engineer.

Professor Creighton.

MECHANICAL DRAWING AND EXPERIMENTAL WORK IN ENGINEERING.—Thirty-five weeks, ten hours per week. Throughout the senior year students devote two hours daily to practical work in the drawing-room and in the testing laboratory. They make drawings of peculiar and complicated machinery; they also prepare the necessary drawings in connection with the study of machine design. They take part in all the experimental work done by the testing laboratory, including the determination of the efficiency of boilers, steam engines and pumps, the relative value of coals, the strength of the materials of construction, and other subjects of importance to the mechanical engineer.

Professor Creighton.

POLITICAL ECONOMY.—Sixteen weeks, four hours per week. See Political and Intellectual Science, page 54.

ELECTIVE STUDIES.—In addition to the foregoing studies students must select one of the following:

1. **APPLIED ELECTRICITY.**—Thirty-five weeks, six hours per week. The work in this subject includes systematic laboratory instruction in the setting up and care of the various forms of fluid, thermo- and secondary batteries, in the use of galvanometers, resistance coils, condensers, etc.; in the measurement of resistance of conductors and batteries, insulation of cables, electro-motive force, etc.; in the construction and testing of electro-magnets, and in the applications of electricity to industrial purposes.

Special attention is given to the magnitude of electrical units and their relation to the mechanical units. Instruments of the latest and best forms are provided for this work.

Professor Huston.

2. **LITERATURE.**—Thirty weeks, one exercise per week. See Literature, page 52.

3. **GERMAN.**—Thirty-five weeks, five hours per week. See Modern Languages, page 55.

VISITS OF INSPECTION.

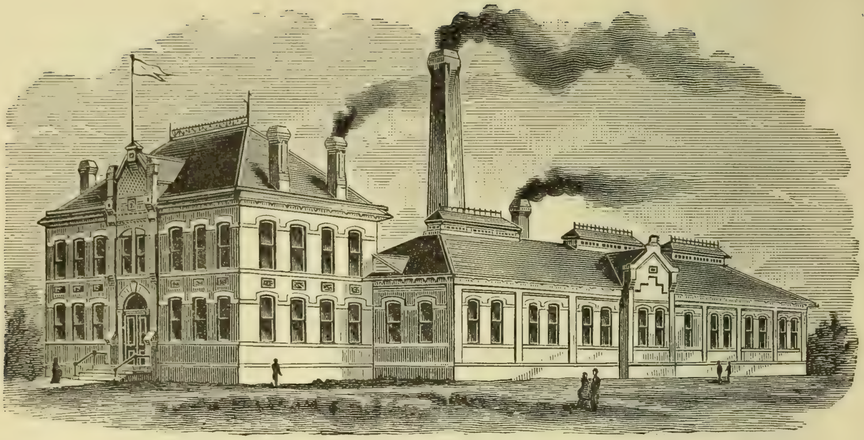
During the year the Junior and Senior students make visits of inspection, in charge of an instructor, to the prominent manufacturing establishments of Chicago, Indianapolis and other cities. Such trips are of very great value to the students, affording them an opportunity of seeing in actual practice those processes of manufacture, whose theory they have already studied in the class-room.

GRADUATING THESES.

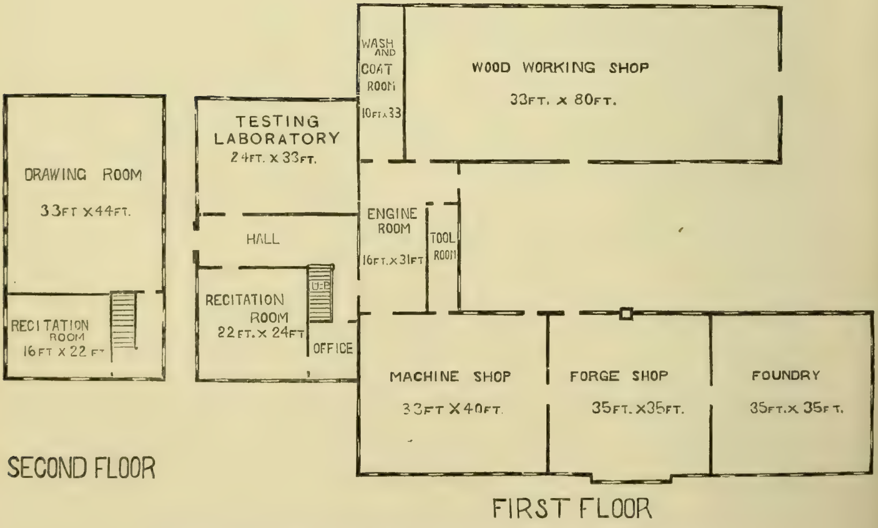
As a condition of graduation, students in the School of Mechanical Engineering are required to present a thesis on some approved subject. Such theses must be original compositions of suitable length, on some subject of interest to the mechanical engineer. The subjects are so selected as to necessitate original work, either of investigation or of experiment, on the part of the student. The originals of theses are preserved in the University Library.

The following are subjects of theses presented by graduating classes:

1. "Bessemer Steel: Its History and Practical Manufacture."
2. "Steam Engine Indicators: the Various Forms in Use and their Applications."
3. "Methods of Testing Steam Boilers, including the Result of an Experimental Determination of the efficiency of a Pair of Steam Boilers."
4. "The Stones and Quarries of Indiana, including Experimental Determination of their Physical Properties."
5. "Windmills: Their History and Present forms, including Experiments in Determining their Efficiency."
6. "Thermo-Chemical Batteries."
7. "Electro-Plating with Aluminium."
8. "Determination of Efficiency of Dynamos and Motors."
9. "Cable Railways."



MECHANICAL LABORATORY.


WASH AND COAT ROOM 10FT.x33
WOOD WORKING SHOP 33FT. x 80FT.
TESTING LABORATORY 24FT. x 33FT.
DRAWING ROOM 33FT x 44FT.
HALL
ENGINE ROOM 16FT.x31FT
TOOL ROOM
RECITATION ROOM 16FT x 22 FT
RECITATION ROOM 22FT. x 24FT
OFFICE
MACHINE SHOP 33FT x 40FT.
FORGE SHOP 35FT. x 35FT.
FOUNDRY 35FT. x 35FT.
SECOND FLOOR
FIRST FLOOR

PLANS OF MECHANICAL LABORATORY.

Mechanical Laboratory.

The Mechanical Laboratory is wholly occupied by the School of Mechanical Engineering.

The main portion of the building is occupied by two recitation-rooms, a drawing-room, a testing laboratory and an office. The drawing-rooms are furnished with tables, drawing-boards and T square for each student. There is also provided, for general use, a supply of the more expensive drawing instruments, such as proportional dividers, protractors, beam compasses, etc., and a large number of rubber curves.

In the wings of the building are a wood-working room, a foundry, a forge-room, and a machine room; and connected with these, an engine room, a tool-room and a coat-room. The wood-working room contains twenty benches, with full sets of bench tools for wood, eleven lathes for turning, a grindstone, a circular saw and a scroll saw. The foundry is equipped with a cupola furnace for iron, a crucible furnace for brass, a core oven, and a full supply of sand, flasks and molders' tools. The forge-room contains fourteen forges, to which air blast is supplied by power, fourteen anvils, and fourteen sets of the usual smithing tools. The machine-room contains two screw-cutting machine lathes of sixteen-inch swing, four of fourteen-inch swing, and one of ten-inch swing; also a machine planer, a shaper, a universal milling machine, a grindstone, two vertical drilling machines, a speed lathe, and an emery grinder. These machines are provided with all the necessary small tools, cutters, etc., necessary to their complete and economic action. In the machine-room are benches, fitted with vises for use in connection with hand-work in metal.

The motive power for the shops is supplied by an automatic cut-off engine of thirty-five horse-power.

TESTING LABORATORY.

The work done by the Laboratory includes the determination of the strength and other physical properties of the materials of construction, the testing of steam boilers by hydraulic pressure, examination and correction of steam gauges, determination of the evaporative power and economy of combustion of fuel of steam boilers, and of the efficiency and amount of fuel consumed per horse-power of steam engines. The Laboratory also determines the relative value of coals for steaming purposes, conducts competitive tests of rival engines, boilers or other machinery, and is prepared to make experimental determinations in other matters of interest to the engineering profession.

Students perform work in the Testing Laboratory as part of the regular course in strength of materials, boilers and steam engines, and assist in all commercial and experimental work done by the Laboratory.

Among the recent additions to the experimental machinery is a 10 H. P. improved balance dynamometer. With this instrument reliable experimental work may be done in all tests of engine friction, and of the power transmitted by machinery.

The Laboratory is provided with a powerful machine for testing the strength and elasticity of materials. The machine can exert any strain up to 50,000 pounds, and can subject the specimen to tension, compression or transverse strain. In addition, the Laboratory possesses a steam gauge tester, steam engine indicator, planimeter, micrometer and other necessary appliances, and has the use of the thoroughly equipped shops of the University.

School of Civil Engineering.

The object of the course is to fit the student for immediate usefulness in the field, and also to enable him, after reasonable experience, to fulfill the duties of engineer in the more responsible branches of the profession.

During the first two years the course is almost identical with that of the School of Mechanical Engineering. The last two years are more especially devoted to the theory and practice of Civil Engineering.

FRESHMAN YEAR.

See course of instruction, School of Mechanical Engineering, page 26.

SOPHOMORE YEAR.

During the first and second terms of this year the course of instruction is identical with that of the School of Mechanical Engineering. In the third term, however, the civil engineers are required to practice plane and higher surveying in the field, when the weather will permit; five hours of machine work and mechanical drawing per week being dispensed with.

JUNIOR YEAR.

TECHNICAL INSTRUCTION.—

(a) *Roads and Railroads.*—Fifteen weeks, eight hours per week. The course of instruction in this branch is made as practical as possible by organizing the class into a surveying party, and as the weather permits engaging in the preliminary survey, location, calculation of earthwork, etc., of an ideal railroad line. Each student is then required to make a topographical map of the projected line, and to construct a profile and locate the grade line.

Professor Phillips.

(b) *Stereotomy.* Twelve weeks, one hour per week, and eleven weeks, four hours per week. The student is called upon to make a practical application of descriptive geometry, to the working out of patterns for various engineering structures in masonry, and also to construct miniature models of the same from plaster of Paris.

Professor Phillips.

ANALYTICAL GEOMETRY.—Twenty weeks, four hours per week; determinants twenty weeks, one hour per week. See Mathematics, page 55.

CALCULUS.—Eighteen weeks, five hours per week. See Mathematics, page 55.

DESCRIPTIVE GEOMETRY.—Fifteen weeks, four hours per week. See School of Mechanical Engineering, page 28.

PRINCIPLES OF MECHANISM.—See School of Mechanical Engineering, page 28.

MECHANICAL DRAWING.—Eleven weeks, four hours per week. See School of Mechanical Engineering, page 29.

METALLURGY.—Eleven weeks, three hours per week. See School of Mechanical Engineering, page 29.

GENERAL CHEMISTRY.—Twenty-seven weeks, eight hours per week. See Chemistry, page 42.

METALLURGICAL CHEMISTRY.—Eleven weeks, eight hours per week.

SENIOR YEAR.

TECHNICAL INSTRUCTION.—

(a) *Graphical and Analytical Statics.*—Twenty-seven weeks, five hours per week. A thorough study of the strains in framed structures, illustrated by practical problems. Each student is required to construct the strain sheets of various patterns of roof trusses, bridges, etc.

(b) *Mechanics of Engineering.*—Fifteen weeks, four hours per week. A thorough study of the scientific principles underlying the theory of all engineering construction.

Professor Phillips.

(c) *Architecture.* Eight weeks, two hours per week. The student studies the growth and development of architecture and the distinctive features that have characterized different eras of architecture throughout the history of the world.

Professor Phillips.

(d) *Geodesy.* Eight weeks, three hours per week. The study of the elementary principles of geodetic surveying, and the methods of the United States Coast and Geodetic Survey.

Professor Phillips.

(e) *Roads and Pavements.* Four weeks, five hours per week. The economic principles of road-making as adapted both to city traffic and country roads.

Professor Phillips.

(f) *Engineering designing.* Twenty-seven weeks, eight hours per week; eight weeks, ten hours per week. The practical designing of structures, both in wood and iron. Roofs and bridges analyzed both graphically and analytically. The dimensioning of members is fully discussed, as well as the designing of joints and the making up of details.

Professor Phillips.

ANALYTICAL MECHANICS.—Nineteen weeks, five hours per week. See School of Mechanical Engineering, page 30.

STEAM ENGINE.—Fifteen weeks, four hours per week. See School of Mechanical Engineering, page 30.

ASTRONOMY.—Twelve weeks, four hours per week.

GEOLOGY.—Sixteen weeks, four hours per week. See School of Science, page 45.

POLITICAL ECONOMY.—Sixteen weeks, four hours per week. See Political and Intellectual Science, page 54.

INSTRUMENTS AND APPARATUS.

This department is fully supplied with field instruments of the best description, comprising a Gurley transit, a solar theodolite, made by Holmes of Batavia, N. Y., solar compass, Y-levels, sextant, surveyor's compass, chains, leveling rods, ranging poles, etc., and a Locke hand-level. The Mathematical Department is also equipped with a fine astronomical telescope of high power. An excellent photograph camera, capable of taking a 5x8 picture, is also at the disposal of students in this department. The department is also supplied with a number of photographs of existing structures; a number of blue-print copies of details, joints, etc., of existing bridges.

The drawing-rooms are fully equipped with tables, boards, T-squares, etc., and the facilities for making blue-prints of designs are all that can be desired.

To the library has recently been added a valuable collection of technical works. In the college reading-room may also be found all the leading technical journals.

SCHOOL OF SCIENCE.

The special object of the School of Science is to give a thorough training in biological, chemical and physical science. It combines with this as much literary, mathematical and philosophical work as possible.

A larger number of electives has been introduced than has heretofore been allowed.

This arrangement gives the Juniors and Seniors in the School of Science the option of four different courses of study, in each of which one of the following subjects may engage the greater part of the student's time, viz:

1. Biology.
2. Chemistry.
3. Applied Electricity.
4. Literature and History.

FRESHMAN YEAR.

BOTANY.—Eleven weeks, ten hours per week. This elementary and general course consists of instruction by lectures and laboratory work in the gross anatomy and morphology of various types of plants. Instruction in systematic botany is given by laboratory and field work.

Professor Coulter.

DRAWING.—Thirty-eight weeks, five hours per week. See Industrial Art, page 47.

RHETORIC.—Thirty-eight weeks, three hours per week. See Literature, page 51.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 54.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 54.

ELOCUTION.—Twenty-seven weeks, one hour per week.

FRENCH OR GERMAN.—Twenty-seven weeks, five hours per week, and eleven weeks, two hours per week. See Modern Languages, page 55.

SOPHOMORE YEAR.

PHYSICS.—Thirty-eight weeks, four hours per week. During the first term the properties of matter and the subject of dynamics are studied. The second term is devoted to the subjects of heat and electricity; and the third, to the subjects of sound and light. Instruction is given by lectures illustrated by qualitative experiments and recitations supplemented by quantitative laboratory work.

Professor Huston.

ZOOLOGY.—Nineteen weeks, five hours per week. An elementary course designed to furnish such general knowledge of the facts of Zoölogy as every educated person should possess; also to impart at the same time some training in laboratory study. The instruction is given by lectures, demonstrations and laboratory practice. It requires the student to study for himself representatives of several animal groups, and to make record of his observations by written and illustrated descriptions.

Professor Coulter.

BOTANY.—Nineteen weeks, five hours per week. The instruction in Botany comprises—

1. *Laboratory work*, in which students will investigate for themselves the structure of a series of plants, illustrating various types, beginning with the simple and proceeding to the more complex. Each student prepares and mounts sections and dissections for examination with the compound microscope. Ink drawings of dissections are required.

2. *Lectures* and *quizzes* at such times as seem most opportune. The lectures are intended to supplement the laboratory work by pointing out the bearing of the facts observed upon the relationships of the plants and their life history.

3. *References* to standard books for private reading. The chief object of this course is to train the student in methods and habits of accurate observation. Such incidental instruction and information will be embodied in the lectures and reference-reading, as seem suitable.

Professor Coulter.

ENGLISH LITERATURE.—Nineteen weeks, three hours per week. See Literature, page 52.

HISTORY.—Nineteen weeks, three hours per week. See History, page 53.

ELOCUTION.—Nineteen weeks, one hour per week.

HIGHER ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 55.

TRIGONOMETRY.—Eleven weeks, five hours per week. See Mathematics, page 55.

SURVEYING.—Fifteen weeks, five hours per week. See Sophomore Year, page 37.

FRENCH OR GERMAN.—Thirty-eight weeks, two and one-half hours per week. See Modern Languages, page 56.

JUNIOR YEAR.

GENERAL CHEMISTRY.—Thirty-eight weeks, eight hours per week. This course embraces general chemistry, with its varied applications to the arts, to agriculture and to metallurgy. Daily exercises (lectures, recitations and laboratory work) throughout the year.

Experimental Lectures are given twice a week on the chemistry of the various elementary substances. Special attention is given to their detection, their metallurgy and their occurrence in nature ; also to their application to agriculture and to commerce. The following list of subjects will give an idea of the nature of the lectures: Chemistry of glass, pottery, paints, fuel, cements, mortars, baking powders, adulterations, gun powder, photography, electroplating, electrotyping, bleaching, dying, etc. Metallurgy of iron, steel, copper, silver, lead, zinc, aluminium and other metals useful to man. Analysis of water, of iron ores, fertility of soils and fertilizers, nitre plantations, etc.

LABORATORY WORK.—One hundred experiments designed especially to illustrate and make clear the various topics touched upon in the lectures. Long experiments on dyeing, bleaching, use of mordants, purification and separation of salts. Experiments with various gases, as oxygen, chlorine, hydrogen carbonic-dioxide, sulphur dioxide, laughing-gas, etc. Metric system—Determination of molecular and atomic weights. The study of the characteristic tests and reactions of the more common elements.

Professor Nef.

ELECTIVE STUDIES.

Juniors must elect three of the following:

1. **ANALYTICAL GEOMETRY AND CALCULUS.**—Thirty-eight weeks, four hours per week. See Mathematics, page 55.

2. **BOTANY.**—(a) *Vegetable Histology,* nineteen weeks, eight hours per week. The instruction includes laboratory work, with references to the literature of the subjects studied. The course is intended to give a wider and more detailed knowledge of the methods of investigation and facts concerning the minute structure of the various plants selected. It is based upon the work done in the Freshman and Sophomore years.

(b) *Vegetable Physiology,* nineteen weeks, eight hours per week. The subjects of nutrition, growth, molecular forces, movements and reproduction of plants are covered by lectures and laboratory work, special attention being given to the experimental verification of the chief facts of the science.

Professor Arthur.

3. **ZOOLOGY.**—Thirty-eight weeks, eight hours per week. This course will consist chiefly of laboratory work, with lectures and quizzes to guide and test the student. Theses embodying the results of his study will be required from time to time. During the year special attention will be given to the methods of studying animal histology, injections, hardening of tissues for section cutting and the use of the microtome.

Each student will be required to mount a series of microscopic slides as a part of the work.

Professor Coulter.

4. **PHYSICS.**—Thirty-eight weeks, eight hours per week. This year's work is devoted to precise physical measurements. Instruction is given by lectures, systematic laboratory work, and due discussion of the results so obtained.

The time is devoted to laboratory practice, and exact reports of all work done are required. The work of the first two terms includes measurement of length, constructions of measures and verniers, use of spherometer, measurement of area, measurement of volume and calibration of measuring instruments, estimation of mass, and critical study of methods of weighing and of the balance, determination of the density of solids and liquids. The remainder of the year is devoted to one or more of the following subjects: Testing of thermometers, measurement of extreme temperatures, determination of the melting and boiling points of various substances, hygrometry, study of radiant energy by Melloins' apparatus, determination of specific heat, elasticity of bodies, use of spectroscope and polariscope, study of sound and the laws of vibrating bodies.

The laboratory is well equipped with instruments for the above work, and continual additions of new apparatus are being made.

Professor Huston.

5. **CHEMISTRY—Qualitative Analysis**—Including basic and acid analysis and work with the blow-pipe. Ten hours per week throughout the year. Elective for Juniors. The student will be able to analyze completely any ordinary commercial product or silicate at the end of the course.

Professor Nef.

6. **LITERATURE AND HISTORY.**—Thirty-eight weeks, four hours per week. See Literature, page 52, and History, page 53.

7. **FRENCH OR GERMAN.**—Thirty-eight weeks, four hours per week.

SENIOR YEAR.

HUMAN PHYSIOLOGY.—Nineteen weeks, four hours per week. The course will be a series of lectures and recitations, based upon "Martin's Human Body" as a text-book, with as much practical study of anatomy and histology as is necessary to clearness and demonstrations of some of the simpler physiological experiments.

Professor Coulter.

GEOLOGY.—Sixteen weeks, four hours per week. Laboratory work in determination of common minerals and rocks; the construction of geological maps and sections, especially of the State of Indiana; supplemented by field work in observation of drift deposits, river erosion and the collection of the common rocks of the drift; together with lectures and text-book study of structural and dynamical geology.

Professor Coulter.

PSYCHOLOGY.—Nineteen weeks, four hours per week. See Political and Intellectual Science, page 53.

POLITICAL ECONOMY.—Sixteen weeks, four hours per week. See Political and Intellectual Science, page 53.

ELECTIVE STUDIES.—Seniors must elect two of the following, viz.:

1. **CHEMISTRY.**—Thirty-five weeks, eight hours per week, as a single elective, or sixteen hours per week as a double elective.

(a) *Qualitative Analyses*, including basic and acid analysis, and work with the blowpipe. Eight hours per week throughout the year. The student will be able to analyze completely any ordinary commercial product or silicate at the end of the course.

(b) *Quantitative Analysis*, including the more common gravimetric and volumetric methods. Eight hours per week throughout the year.

(c) *Organic Chemistry* or *Chemistry of the Compounds of Carbon.*—Lectures and laboratory work eight hours per week throughout the year.

To elect chemistry *b* or *c*, a student must have taken chemistry *a*. Courses *a* and *b* may, however, be taken as a double elective in the same year.

Students desiring to elect the more advanced courses in chemistry are strongly recommended to pay especial attention to German while in college.

Professor Nef.

2. **APPLIED ELECTRICITY.**—Thirty-five weeks, six hours per week. See Applied Electricity, page 32.

3. **BOTANY.**—Thirty-five weeks, eight hours per week. The character of the work done in this year will be at the option of the student, under the advice of the Professor, and the instruction is chiefly personal.

This offers decided advantages to those having a taste for any particular branch of botany, or allows students intending to study medicine to pursue those topics most intimately connected with that profession.

Professor Arthur.

4. **ZOOLOGY.**—Thirty-five weeks, eight hours per week. Students selecting this course will be allowed the greatest freedom of choice as to subject-matter, and encouraged to the greatest possible independence in their work. Such guidance and help will be given as is required to meet this end. None will be permitted to elect the course who have not previously given promise of being able to pursue it with profit. It will be observed that this course, with the previous biological courses, offers an opportunity for preliminary training to those who intend entering the medical profession in a direction which will be of great service in the special medical course.

Professor Coulter.

5. **LITERATURE.**—Thirty-five weeks, four hours per week. See Literature, page 52.

APPARATUS AND APPLIANCES.

BIOLOGICAL APPARATUS.

The Botanical and Zoölogical Laboratories are provided with a sufficient outfit of microscopes and dissecting instruments to accommodate all the students who work in them. The student is furnished with the materials and utensils necessary for his work, and is held responsible for their proper care, and for any injuries they receive. A Botanical, Zoölogical and Geological Museum furnishes a great variety of material for illustration or comparison.

CHEMICAL APPARATUS.

The University has a good supply of chemical apparatus and a well-equipped laboratory. Each student is furnished with a full set of apparatus and the necessary chemicals for all his work and experiments, and he is held responsible for their proper use. He is charged with actual breakage and damage.

PHYSICAL APPARATUS.

The Physical Laboratory will accommodate forty students, and liberal appropriations have been made for its equipment and support. Much of the apparatus of this department has been purchased for the purpose of precise quantitative measurements, and large additions have been recently made. A workshop is provided for the construction of special apparatus.

SCHOOL OF INDUSTRIAL ART.

The object of this school is, in addition to giving a good general education, to give a practical knowledge of Object Drawing in Outline, Light and Shade, and Color; of Linear Perspective; of Orthographic Projection, or the Drawing of Plans, Elevations and Sections; of Wood-carving, or Clay-modeling, including Historical Ornament and Decorative Design.

FRESHMAN YEAR.

INDUSTRIAL ART.—Twenty-seven weeks, five hours per week, and eleven weeks, fifteen hours per week. **Model-Drawing in Outline.**—This includes free-hand outline drawing from round geometrical solids, as cylinders, cones, vases and crockery-ware; from straight line objects, as cubes, prisms, crosses and pyramids; also, the drawing of the above objects in groups and their application in drawing chairs, tables, sofas and buildings. **Linear Perspective.**—This subject includes the working of about one hundred problems illustrating the principles of parallel, angular and oblique perspective, and showing how to put into perspective any object. **Orthographic Projection.**—The instruction in this subject includes the drawing of about one hundred problems, illustrating the principles for making "working drawings," including plans, elevations, developments and intersections.

Light and Shade.—Under this head, model and object drawing in light and shade will be taught, using first the crayon and the stump.

Professor Thompson.

GEOMETRY.—Twenty-seven weeks, five hours per week. See Mathematics, page 54.

ALGEBRA.—Eleven weeks, five hours per week. See Mathematics, page 54.

RHETORIC.—Thirty-eight weeks, three hours per week. See Literature, page 51.

ELOCUTION.—Twenty-seven weeks, one hour per week.

FRENCH OR GERMAN.—Twenty-seven weeks, five hours per week, and eleven weeks, two hours per week. See Modern Languages, page 55.

SOPHOMORE YEAR.

INDUSTRIAL ART.—Twenty-three weeks, five hours per week; four weeks, ten hours per week; and eleven weeks, fifteen hours per week. **Light and Shade.**—Further practice will be given under this head in drawing from casts and in using the brush. **Color.**—The instruction here embraces the theory of color, including the principles of harmony and contrast, and practice in water or oil colors, as applied to object-drawing, and still-life.

Professor Thompson.

HIGHER ALGEBRA.—Twelve weeks, five hours per week. See Mathematics, page 55.

TRIGONOMETRY.—Eleven weeks, five hours per week. See Mathematics, page 55.

ENGLISH LITERATURE—Nineteen weeks, three hours per week. See Literature, page 52.

HISTORY.—Nineteen weeks, three hours per week. See History, page 53.

PHYSICS.—Thirty-eight weeks, four hours per week. See Physics, page 41.

FRENCH OR GERMAN.—Thirty-eight weeks, two and one half hours per week. See Modern Languages, page 56.

ELOCUTION.—Nineteen weeks, one hour per week.

JUNIOR YEAR.

INDUSTRIAL ART.—Thirty-eight weeks, ten hours per week. Students who have satisfactorily completed the work of the Freshman and Sophomore years in the School of Industrial Art are supposed to have a fair knowledge of drawing, at least sufficient to enable them to take up some special line of work, as wood-carving or clay-modeling. **Wood-Carving.**—At first the sharpening and the proper handling of tools are taught. Incised and low-relief carving is then practiced, followed by medium and high-relief work, as skill in the use of tools may warrant. Students begin to carve easels, tables, sideboards, etc., soon after entering the carving class. **Historical Ornament.**—An outline of the principal styles of historical ornament, together with illustrative examples, will be given with wood carving or clay-modeling, in the Junior year, during the second and third terms.

Professor Thompson.

CHEMISTRY.—General Chemistry, twenty-seven weeks, eight hours per week; and Applied Chemistry, eleven weeks, eight hours per week. See Chemistry, page 42.

ELECTIVE STUDIES.—Juniors must elect two of the following:

1. **ANALYTICAL GEOMETRY AND CALCULUS.**—Thirty-eight weeks, five hours per week. See Mathematics, page 55.

2. **LITERATURE AND HISTORY.**—Thirty-eight weeks, four hours per week. See Literature, page 52, and History, page 53.

3. **FRENCH OR GERMAN.**—Thirty-eight weeks, four hours per week. See Modern Languages, page 56.

SENIOR YEAR.

INDUSTRIAL ART.—Thirty-five weeks, eight hours per week. During the Senior year, students may continue Wood-carving, in connection with Decorative Design; or, if a sufficient number desire it, they may continue the course in Clay-modeling, in connection with Decorative Design; or they may take an advanced course in drawing, including casts and the human figure. **Clay-Modeling.**—The study and practice of this subject is a good preparation for work in wood, iron, stone, marble, silver or gold. It is indispensable to the first-class plasterer, stone-cutter and sculptor. After some practice in modeling simple ornaments leaves, fruits, flowers, etc., the student is allowed to work on such subjects as will probably be of use in his future profession—it may be tiles, pottery, architectural terra cotta, or the human figure. **Decorative Design.**—In this course the principles of flat and sculptured ornamentation are studied and applied in designing surface decorations of all kinds. **Advanced Drawing.**—This course may include the balancing of the human figure as a whole, the expression of character in the face, including caricature, drawing the figure from casts and the living model. Crayon or the brush may be used.

Professor Thompson.

HUMAN PHYSIOLOGY.—Nineteen weeks, four hours per week. See Human Physiology, page 44.

GEOLOGY.—Sixteen weeks, four hours per week. See Geology, page 45.

PSYCHOLOGY.—Nineteen weeks, four hours per week. See Political and Intellectual Science, page 53.

POLITICAL ECONOMY.—Sixteen weeks, four hours per week. See Political and Intellectual Science, page 54.

ELECTIVE WORK.—Thirty five weeks, four hours per week in Literature, or additional art work, ten hours per week.

School of Pharmacy.

This department of the University is designed to furnish a thorough training in the art of pharmacy, and the fundamental sciences upon which it rests. The course embraces two terms of six months each, beginning on September 18th. The instruction is both theoretical and practical, the laboratories being open twenty hours per week.

Persons desiring information concerning the course of study, expenses, etc., can obtain a special circular by addressing the President of the University.

General Studies.

LITERATURE.

Emma Mont. McRae, Instructor.

FRESHMAN YEAR.

COMPOSITION AND RHETORIC.—The principal text-book is Clark's "Practical Rhetoric for Instruction in English Composition and Revision." Shakespeare's "Merchant of Venice" and Burke's "Speech on Conciliation with America" are read in the class-room as illustrations of rhetorical principles. Practical exercises in written composition and conversations upon topics previously assigned are made prominent throughout the year.

SOPHOMORE YEAR.

ENGLISH LITERATURE. — Hale's "Longer English Poems and Brooke's "Primer of English Literature" are the text-books used. The work extends through the first half of the year.

The chief aim of the course is to cultivate a taste for what is best in literature, to show the student where to look for the best, and to teach him to distinguish it from the second-best and the inferior.

JUNIOR YEAR.

ENGLISH PROSE (**Elective.**)—During the entire year an option is offered between Literature, Calculus and French and German. The course in literature is a study of the principal masters of English prose, with special reference to characteristics of style. Text-book: Minto's "Manual of English Prose."

De Quincey's "Confessions of an English Opium-Eater," Macaulay's "Warren Hastings" and Carlyle's "Heroes" are studied as examples of style.

SENIOR YEAR.

ENGLISH LITERATURE (**Elective**).—This course extends throughout the year. At least half of the student's time is spent in the preparation of special reports upon topics assigned by the instructor. Typical works of Chaucer, Spenser, Shakespeare, Milton, Pope, Wordsworth, Shelley, Browning and Emerson are studied in detail. These works are studied in their relation to the lives and characters of their authors, as well as for the light they throw upon contemporary life and events. An attempt is also made to indicate the relation of each of these great writers to the development of modern thought.

HISTORY, POLITICAL AND INTELLECTUAL SCIENCE.

PROFESSOR CRAIG.

SOPHOMORE YEAR.

MODERN HISTORY.—Throughout the second half-year the class studies the general history of medieval and modern times, the text-book being Sheldon's "Studies in General History." This book is not an ordinary history but a collection of historical materials, the aim being to train the student in the methods of historical investigation as well as to teach him facts and dates. He is compelled to reflect upon historical problems and to draw his own conclusions, subject always to the free criticism of class and instructor. As "history repeats itself," it is believed that such a course furnishes an invaluable preparation for American citizenship. Topics for special oral reports are regularly assigned, and the student is familiarized with the use of a wide range of reference books found in the library of the University. Essays on important historical events are required at stated times.

JUNIOR YEAR.

ANCIENT HISTORY.—During the first half-year Ancient History is studied, with special reference to the origin and development of modern institutions. Except that origins rather than results are investigated, the methods of study are much the same as in the preceding year, the same text-book being used.

SENIOR YEAR.

PSYCHOLOGY.—The text-book used by the student is "Porter's Intellectual Science." This is supplemented by lectures and by many valuable reference books found in the library. The aim is to give less attention to the speculative and historical phases of the science and more to the empirical and practical.

Particular attention is given to the recent discoveries in science that have an important bearing on this subject. Four hours a week during the first half year is given to this work.

POLITICAL ECONOMY.—The instruction in Political Economy aims to train the student in probable reasoning and to guard him against hasty generalizations in those departments of the science where the facts are not well determined and known. Special attention is given to those subjects which more directly relate to agricultural and mechanical interests. Debates from time to time on economic questions have proven to be a useful feature of class work. A limited number of essays on questions of public interest are required from each member of the class. Four hours a week during the last half year is spent in recitation.

MATHEMATICS.

PROFESSOR STEVENS.

The branches of Pure Mathematics required of all the students are Plane, Solid and Spherical Geometry, Higher Algebra and Plane and Spherical Trigonometry.

In addition to these the students taking the Mechanical Course are required to take Analytical Geometry, Differential and Integral Calculus, and the elements of Determinants.

FRESHMAN YEAR.

The first term is devoted to Plane Geometry, in which the student is practiced in geometrical constructions, and in the solutions of problems and theorems not found in the text-book. In the second term Solid and Spherical Geometry are completed, and Higher Algebra is commenced, and continued in the third term.

SOPHOMORE YEAR.

In the first term the subjects of Indeterminate Co-efficients, Loci of Equations, Theory and Use of Logarithms, Indeterminate Equations, General Theory of Equations, including Sturm's Theorem, Cardan's Rule for Cubics, Horner's Method of Approximation, and kindred subjects are pursued.

As soon as Higher Algebra is completed, Trigonometry is commenced, and is completed in the second term.

JUNIOR YEAR.

Four lessons a week during the first half of the year are devoted to Analytical Geometry, and one to Determinants, and the last half of the year is spent on the Differential and Integral Calculus.

MODERN LANGUAGES.

Augusta N. Jones, Instructor.

These languages will be taught at the time indicated in the general scheme, and according to the latest and most approved method. Conversation will be made a prominent feature in the instruction.

FRESHMAN YEAR.

Twenty-seven weeks, five hours per week, and eleven weeks, two hours per week, will be given to each language.

FRENCH.—Dr. G. Alba Reymond's Treasury of French Conversation; Madame L. Alliot's Contes et Nouvelles; Duffet's Grammar; Conversation.

GERMAN.—Bacon's New Leitfaden; Conversation; Read one or more modern plays; Grammar.

SOPHOMORE YEAR.

Thirty-eight weeks, an average of two and one-half hours per week, will be given to each language.

FRENCH.—Commence second part of the Grammar; Composition; Conversation; *Corneille's Le Cid; Racine's Athalie.*

GERMAN.—Grammar continued; Conversation; *Schiller's William Tell; Hodge's Course in Scientific German; Goethe's Faust.*

JUNIOR YEAR.

Thirty-eight weeks, four hours per week. Attention will be given during this year to Conversation and to the study of Advanced French and German literature.

DOMESTIC ECONOMY.

MRS. EMMA P. EWING.

SCHEME OF STUDY AND PRACTICE, 1887-88.

Optional and for Young Ladies Only.

FIRST TERM, FRESHMAN YEAR.

Monday,	October	3,	2:30	P. M.	LECTURE—*Home-Making.*
Tuesday,	"	4,	"	"	LECTURE—*Our Kitchen Interests.*
Wednesday,	"	5,	"	"	LECTURE—*The Art of Cookery.*
Thursday,	"	6,	"	"	LECTURE—*Bread-Making.*
Monday,	"	10,	"	"	PRACTICE—Bread-Making, including Yeast, Ferment, Dough.

Monday,	October	17,	2:30 P. M.	PRACTICE—Fermentation of Dough, Baking of Dough, Cooling and Care of Bread.
Monday,	“	24,	“ “	PRACTICE—Graham Bread, Fancy Rolls and Twists, German Coffee Cake.
Monday,	“	31,	“ “	LECTURE—*Boiling, Simmering, Stewing.*
Monday,	Nov’ber	7,	“ “	PRACTICE—Soup Stock, Beef Tea, Plain Soup.
Monday,	“	14,	“ “	PRACTICE—Boiling Meats and Vegetables.
Monday,	“	21,	“ “	PRACTICE—Stewing Meats and Vegetables.
Monday,	“	28,	“ “	LECTURE—*Broiling and Roasting.*
Monday,	Dec’ber	5,	“ “	PRACTICE—Broiling Meats and Poultry.
Monday,	“	12,	“ “	PRACTICE—Dressing Poultry, Larding.
Monday,	“	19,	“ “	PRACTICE—Dressing Meats and Poultry.

SECOND TERM, SOPHOMORE YEAR.

Monday,	January	9,	3:00 P. M.	PRACTICE—Making Omelets, and Cooking Eggs.
Monday,	“	16,	“ “	PRACTICE—Cooking Cereals, and Making Coffee, Tea and Chocolate.
Monday,	“	23,	“ “	LECTURE—*Frying.*
Monday,	“	30,	“ “	PRACTICE — Frying Oysters, Ha , Chicken, Potatoes and Mush.
Monday,	Febr’y	6,	“ “	PRACTICE—Baking, Boiling, Frying and Scolloping Fish.
Monday,	“	13,	“ “	PRACTICE—Making Fruit, Custard and English Pies.
Monday,	“	20,	“ “	PRACTICE—Making Puddings and Pudding Sauces.
Monday,	“	27,	“ “	LECTURE—*Mixing and Seasoning.*
Monday,	March	5,	“ “	PRACTICE—Making Chicken, Vegetable and Fruit Salads.
Monday,	“	12,	“ “	PRACTICE—Making Croquets, Stews and Hashes.
Monday,	“	19,	“ “	PRACTICE—Setting Tables and Serving Food.

THIRD TERM, JUNIOR YEAR.

Monday, March	26,	3:00	P. M.	Lecture—*Household Management.*
Monday, April	2,	"	"	Practice—Housework.
Monday, "	9,	"	"	Practice—Laundry Work.
Monday, "	16,	"	"	Practice—Selecting Meats and Family Supplies.
Monday, "	23,	"	"	Practice—Handling Milk and Cream, Making and Taking Care of Butter.
Monday, "	30,	"	"	Practice—Boning Turkey and Chicken.
Monday, May	7,	"	"	Practice—Making Cake.
Monday, "	14,	"	"	Practice—Delicate Desserts.
Monday, "	21,	"	"	Practice—Making Candy.
Monday, "	28,	"	"	Lecture—*Social Etiquette and Usages of Society.*
Monday, June	4,	"	"	Practice—A High Tea and Sociable.

1. This work may be taken by students already in the University, without interfering with their regular course of study.

2. A limited number of persons not students of the University will be permitted to take the above course upon payment of a matriculation fee of five dollars, and a fee of two dollars and fifty cents for the use of material.

Post-Graduate Courses.

FOR RESIDENT GRADUATES WHO ARE CANDIDATES FOR AN ADVANCED DEGREE.

Opportunity will be afforded to graduates of Purdue University and other higher institutions for instruction and practice in post-graduate work, as follows:

I. In Mechanical Engineering—Leading to the Degree of Mechanical Engineer (M. E.).

II. In Civil Engineering—Leading to the Degree of Civil Engineer (C. E.).

III. In Chemistry—Leading to the Degree of Analytical Chemist (A. C.).

IV. In Agriculture—Leading to the Degree of Master of Science (M. S.).

V. In Industrial Art—Leading to the Degree of Master of Science (M. S.).

VI. In Literature—Leading to the Degree of Master of Science (M. S.).

VII. In History and Political Economy—Leading to the Degree of Master of Science (M. S.).

VIII. In Mathematics—Leading to the Degree of Master of Science (M. S.).

IX. In Electricity—Leading to the Degree of Master of Science (M. S.).

X. In Biology—Leading to the Degree of Master of Science (M. S.).

Students who are candidates for the Degree of M. E., C. E. or A. C. must devote their entire time to one or more of the subjects leading to these respective degrees.

Students may devote one-half or all of their time to the subject of Electricity. All other candidates for the Degree of M. S. must select either two or three of the subjects leading to that degree, but with the advice of the Faculty.

No student will be admitted to these post-graduate courses who does not give satisfactory evidence that he is especially qualified to do the work which he selects.

The shortest time in which any one of the post-graduate courses for resident students can be completed will be one year; and, unless the candidate is exceptionally well prepared, a longer time may be required.

All candidates for advanced degrees must pass a satisfactory examination and present a thesis at least three weeks before Commencement day.

A fee of five dollars will be required for the diploma, and must be paid to the Registrar before Commencement Week.

Scheme of Study and Practice.

In Mechanical Engineering.—The course will consist of a study of the history and literature of the subject, together with a series of verifying and original experiments, conducted under the personal supervision of the professor in charge. The subjects pursued will be an extension of those taken up during the Senior year. Students will be limited to *three* subjects in each term, as each subject must be thoroughly investigated before those of the next term are taken up.

1. Theory of Steam Engine; Structure and Efficiency of Steam Engine; Drawing and Experimental Work.
2. Mechanics; Mechanics of Engineering; Machine Design.
3. Electricity or Chemistry, see paragraph below.

Directed by Professor Creighton.

In Civil Engineering.—Higher Mathematics; Analytical Mechanics; *Weisbach's* Mechanics of Engineering.

Du Bois, Strains in Framed Structures; Economic Principles of Engineering, construction and design; Civil Engineering, including Stability of Masonry Structures, foundations, retaining walls, etc.; Economic Theory of Railway Location; Sanitary Engineering.

An elaborate design must also be submitted of some projected work of construction. This must comprise all necessary calculations, complete working drawings, and be accompanied by full specifications of the work to be done.

Directed by Professor Phillips.

In Chemistry.—Students will be directed in any special quantitative work, such as soil, mineral or commercial analysis, which they may choose as their specialty; or experimental research work on inorganic or organic chemistry under the direction of the instructor. The training to be obtained from this kind of work is considered to be of the highest value to those desirous of pursuing a successful technical career.

Directed by Professor Nef.

In Agriculture.—History of agriculture; laws relating thereto, in this and in other countries; its relations to other pursuits, and to the general prosperity of communities and nations; husbanding the varied sources of fertility; economic and profitable production; social relations of the agricultural classes; needed legislation in behalf of agriculture.

Directed by Professor Latta.

In Industrial Art.—Advanced Work in modeling and carving, with a view to sculpture. Drawing from the human figure, including artistic anatomy; æsthetics, art, philosophy, or the principles of art criticism; history of architecture, sculpture and painting.

Directed by Professor Thompson.

In Literature.—The following texts will be studied: 1. Lectures on the English Language, *Marsh.* 2. History of English Literature, *Taine.* "Literature of Europe," *Hallam.* 3. *Homer's* "Iliad," *Dante's* "Divine Comedy," *Goethe's* "Faust."

The study of texts will be supplemented by lectures. Topics will be assigned for investigation, book reviews and criticism being made prominent.

Directed by Emma Mont. McRae.

In History.—Studies in ancient history, including the Kingdoms of the East, Egyptian civilization, the Grecian States and the Roman Empire; history of civilization in modern Europe; the constitutional history of England with its relation to American institutions; the political, financial and industrial history of the United States; the laboratory method of teaching history is employed as far as practicable.

In Political Economy.—History of Political Economy; discussion of the views held by able writers on this subject; unsettled questions in Political Economy with especial reference to practical American problems, such as financial legislation, taxation, the tariff question, coöperation, monopolies, and the claims of capital and labor. The work is done by means of lectures, study of texts, discussions and theses.

Directed by Professor Craig.

In Mathematics.—In the advanced course of Mathematics the student will be required to pursue *Determinants;* some advance work on *Co-ordinate Geometry;* Mathematical Astronomy, including Gauss's Theoria Motus; and Quaternions.

Work will be assigned the student, and his knowledge of the subject will be tested by examinations.

In case of difficulty he will receive aid from the Professor in charge.

Those desiring information as to text-books, etc., should correspond with the Professor of Mathematics.

Directed by Professor Stevens.

In Electricity.—Students will be afforded facilities for systematic work and for original investigation. The course will be largely experimental, and the laboratory work will include measurements that are too advanced and require more time than is available for undergraduates. Considerable choice will be allowed in the particular work to be done. The laboratory is well supplied with standard electrical instruments, and with dynamos and motors and other appliances for studying the subject from an industrial standpoint.

Directed by Professor Huston.

In Biology.—One or more topics will be assigned as subjects for original investigation, in which it will be necessary to determine the structure, development or life history of some plant or animal, or trace the explanation of some phenomenon of growth, together with the history of the subject as treated by other investigators. A knowledge of French and German will be specially serviceable in this course.

The general study of some department of Biology will be required in addition to the above.

Directed by Professors Coulter and Arthur.

Special Work.

For Resident Post-Graduates, not Candidates for a Degree.—Graduates of this and other colleges, who desire to pursue special lines of study or investigation for a limited period of time, and who are not candidates for an advanced degree, will be afforded laboratory facilities for such work at the University, under the direction of the Faculty.

For Undergraduates.—Persons who are qualified to do so, may be permitted, for special reasons, to select single or related lines of work in any school. The Faculty will, in each case, prescribe the minimum amount of time to be spent in such work. A certificate stating the amount of work done will be given to students who pursue any special studies.

Regular students will not be permitted to select any study which will cause them to become irregular.

For Teachers in Manual Training Schools.—The progress of industrial education has led to the introduction of the workshop, as a laboratory, into many existing schools; and this has created a strong demand for instructors who are skilled, both in teaching and in mechanical manipulation. In view of this fact a course has been arranged for the accommodation of teachers, who may wish to prepare themselves for such lines of work as are usually considered peculiar to the so-called manual training school.

This course will extend through one school year, and will require six or seven hours per day in (1) lectures on the theory of mechanical manipulation, (2) mechanical drawing, (3) shop-work.

For an outline of this course see Technical Instruction, Mechanical Drawing and Shop-Work in the Freshman and Sophomore years of the School of Mechanical Engineering.

Candidates for admission to this course must either be graduates of the Indiana State Normal School, or of some other school of similar grade; or they must have been successful teachers in a graded or high school of approved standing for a period of not less than three years.

DEGREES.

Graduate Degrees.

I. The degree of **Bachelor of Science** (**B. S.**) will be conferred upon students who complete the prescribed course of study in either the school of Science, the School of Agriculture, or the School of Industrial Art.

II. The degree of **Bachelor of Mechanical Engineering** (**B. M. E.**) will be conferred on students who complete the prescribed course of study in the School of Mechanical Engineering.

III. The degree of **Bachelor of Civil Engineering** (**B. C. E.**) will be conferred on students who complete the prescribed course of study in the School of Civil Engineering.

IV. The degree of **Graduate in Pharmacy** (**Ph. G.**) will be conferred on students who complete the prescribed course of study in the School of Pharmacy.

A fee of five dollars will be required for the diploma, and this must be paid to the Registrar before commencement week.

Post-Graduate Degrees.

For the Degree of Master of Science (M. S.)

The degree of Master of Science will be conferred upon students under the following conditions:

Resident Students.—Students must have already received the degree of B. S. from Purdue University, or from some other institution having equal requirements for it. They must complete the Post-Graduate course of study prescribed for this degree at the University, pass an examination thereon and present a satisfactory thesis.

Non-Resident Students.—Having held the degree of B. S. from Purdue University for not less than three years, and having pursued during this period of time a special course in Advanced Science, Literature or Art, under the direction of the Faculty, they must pass an examination thereon and present a satisfactory thesis.

For the Degree of Mechanical Engineer (M. E.)

The degree of Mechanical Engineer will be conferred upon students under the following conditions:

Resident Students.—Students must have already received the degree of B. M. E. from Purdue University or from some other institution whose requirements are equal to the Mechanical Engineering Course of Purdue University. They must complete the Post-Graduate course of study prescribed for this degree at the University, pass an examination thereon and present a satisfactory thesis.

Non-Resident Students.—Having held the degree of B. M. E. from Purdue University for not less than three years, and having been engaged for a like period of time in active professional work, they must pass a satisfactory examination at the University.

For the Degree of Civil Engineer (C. E.).

The degree of Civil Engineer will be conferred upon students under the following conditions:

Resident Students.—Students must have already received the degree of B. C. E. from Purdue University or the degree of B. S. or B. C. E. from some other institution whose requirements are equal to those of the Civil Engineering Course of Purdue University; they must complete the Post-Graduate course of study prescribed for this degree at the University, pass an examination thereon and present a satisfactory thesis.

Non-Resident Students.—Having held the degree of B. C. E. from Purdue University for not less than three years, and having been engaged for a like period of time in active professional work, either in the field or in the office, they must pass a satisfactory examination at the University.

For the Degree of Analytical Chemist. (A. C.)

The Degree of Analytical Chemist will be conferred upon students under the following conditions:

Resident students only. Students must have received the Degree of B. S., B. M. E., B. C. E., or B. A. from Purdue University or from some other institution whose requirements are equal to those of Purdue University, and must have had as much special training in Chemistry as that afforded our own undergraduates. They must pursue and complete at Purdue University, a special course in Analytical, Theoretical and Industrial Chemistry, pass an examination thereon, and present a satisfactory thesis.

ADMISSION.

CONDITIONS OF ADMISSION.

Applicants for admission to the Freshman Class must be sixteen years of age. Certificates of good character will be required. Those who come from other institutions must produce certificates of honorable dismissal.

Applicants are examined in English (including Grammar, the elements of Composition, Reading and Spelling), Descriptive Geography, History of the United States, Arithmetic, and Algebra through Quadratic Equations.

In order to indicate the scope of the requirements in History and English, Johnston's "History of the United States," and Reed and Kellogg's "Higher Lessons in English," the text-books used in the Preparatory Course, are mentioned.

In **English** as much importance is attached to the ability to speak and write correctly, as to the mastery of technical grammar. The applicant is required to write a short composition evincing familiarity with some masterpiece of literature.

It will be noted that the standard of requirement in Mathematics, English and History, is relatively high, necessitating a full year's work in addition to what is required for admission to the Preparatory Class. (See page 72.)

In **Arithmetic** special attention is directed to the following subjects: Greatest Common Divisor, Least Common Multiple, Common and Decimal Fractions, Denominate Numbers including the Metric System of Weights and Measures, Percentage including Interest, Discount and Commission, and Extraction of the Square and Cube Roots.

In **Algebra** the applicant should be thorough in the Fundamental Operations, Equations of the First Degree, with one or more unknown quantities, Equations of the Second Degree, Radicals, and Ratio and Proportion.

Samples of questions used at former examinations will be sent on application.

ADMISSION WITHOUT EXAMINATION.

Applicants who have completed their course of preparation in High Schools, which have been commissioned by the State Board of Education, will be admitted to the Freshman Class without examination.

For list of Commissioned High Schools see page 96.

An arrangement has been made with the Directors of the Chicago Manual Training School and of the Cincinnati Manual Training School, by which graduates of those institutions will be received into Purdue University for the purpose of completing a course in Mechanical and Electrical Engineering, and will be given due credit upon all work previously accomplished by them as shown by the certificate of the Director.

ADMISSION TO ADVANCED CLASSES.

Persons desiring to enter an advanced class in the University will be required to give satisfactory evidence that they have done work equivalent to that already accomplished by the class to which entrance is desired.

Advanced students who can give evidence that they have done work equivalent to the Language, Literature, History and Mathematics of our Freshman and Sophomore years, can take the technical work done in those two years in one year, and thus be enabled to complete any one of the general courses in three years.

MATRICULATION.

As a condition of admission to the University, or any department therein, or of reëntrance, students are required to subscribe to all regulations of the University relating to the obligations and duties of students, and promise a faithful compliance therewith during their connection with the University; that is, until dismissed or graduated.

A copy of the rules and regulations of the University will be forwarded to any address upon application.

EXAMINATIONS FOR ADMISSION.

Entrance examinations are held at the University in June and September of each year. In 1888 the first examination will begin June 5, and the second September 4. Applicants may appear at either examination; but, when practicable, it is best to apply in June.

Examinations will usually require two days. *Candidates must be present at 9 A. M.* on the days specified.

Arrangements have been made for holding entrance examinations in the several counties of the State, under the direction of the County Superintendents. Applications for such an examination should be made to the President of the University, Lafayette, Indiana. On the receipt of one or more applications from any county, printed questions, with directions, will be sent to the County Superintendent, and the applicants may present themselves at the regular county examination for teachers, held Saturday, August 25. The written answers will be forwarded to the University, where they will be read and graded, and a certificate of admission forwarded to each applicant who has passed the examination.

Applicants must state whether they wish to be examined for the Preparatory or for the Freshman Class.

Sample copies of former examination questions will be sent on application.

APPLICATIONS FOR ADMISSION.

Application for admission to any department of the University should be made to the President, and prior to the opening of a year or term, when this is practicable. In making application by letter, applicants are requested to give their age, the studies which they have pursued, and a general idea of their attainments. A catalogue will be sent to any address on application. Address, President of Purdue University, Lafayette, Indiana.

THE PREPARATORY CLASS.

INSTRUCTORS.

Oscar J. Craig, A. M., U. S. History.
Stanley Coulter, A. M., English and Mathematics.
Mrs. Emma Mont McRae, English.
Miss Bertha A. Reynolds, Elocution.
Alfred E. Phillips, A. B., M. E., Mathematics.
William C. Latta, M. S., Agriculture.
James Troop, M. S., Horticulture.
Langdon S. Thompson, A. M., Industrial Drawing.
Michael Golden, Shop-work and Mechanical Drawing.

The Preparatory Class affords instruction in Algebra, Arithmetic, English, Elocution, Physiology, Physical Geography and History of the United States. The students who complete the required work in these subjects are prepared to enter the Freshman classes of any of the various schools of the University.

In addition to this regular course, instruction is also given in Agriculture, Shop-work and Mechanical Drawing, and Industrial Drawing. Students who make their preparation elsewhere for the Freshman classes of the University are not required to pass examination in these special industrial subjects. The requirements for admission to the Freshman Class are given on page 66.

The Preparatory Class is in charge of a Professor of the University, and is provided with commodious rooms and all the appliances necessary for thorough and practical instruction. The fine apparatus found in the other departments of the University is used by the instructors of this class for illustrating the work in Natural Philosophy, Physiology, etc. The library is accessible to all students, and contains an excellent selection of the books needed for reference in pursuing the Preparatory studies. The course of study embraces one year's work, and is arranged as follows:

COURSE OF STUDY.

FIRST TERM

REQUIRED.

Algebra. Fundamental Rules, Factors, and Multiples.—*Wentworth.*

Arithmetic. Review of the Metric System, Percentage, Proportion, Involution and Evolution.—*White.*

English. English Grammar reviewed, Analysis and Parsing.—*Reed and Kellogg.*

Elocution. Including Articulation, Expression and the Study of Words.

History. History of the United States.—*Johnston.*

ELECTIVE.

Agriculture, Shop-Work and Mechanical Drawing, Industrial Drawing.

SECOND TERM.

REQUIRED.

Algebra. Fractions and Equations of the First Degree.—*Wentworth.*

Elocution. Study of Words, Articulation and Expression.

English. Elements of Composition.—*Reed and Kellogg.*

History. History of the United States, first half term.—*Johnston.*

Physical Geography. Physical Geography reviewed, second half term.

ELECTIVE.

Agriculture, Shop-Work and Mechanical Drawing, Industrial Drawing.

THIRD TERM.

REQUIRED.

Algebra. Quadratics and Radicals.—*Wentworth.*
English. English Literature and Composition.—*Selected.*
Natural Philosophy. Elements of the Science, ————.

ELECTIVE.

Agriculture, Shop-Work and Mechanical Drawing, Industrial Drawing, Physiology and Physical Geography.

REMARKS ON THE PREPARATORY COURSE OF STUDY.

Students who enter the Preparatory Class will, in addition to the required academic work, select one of the industrial subjects marked elective, and having made the selection will continue the subject until the end of the year.

On entering the Freshman Class, a change of course will be permitted, although those who expect to follow the Agricultural course are advised to elect Agriculture in the Preparatory Class; those who intend to pursue the Mechanical course to elect Shop-work and Mechanical Drawing, and those who intend pursuing either the Industrial Art course or the Science course to elect Industrial Drawing.

The special work in Agriculture will be arranged as follows: During the first term instruction will be given in the subject of General Farming, during the second term in Stock-raising, and during the third in General Horticulture.

The Shop-work will include Bench-work in wood—giving practice in the use of the common carpenter's tools, and machine work in wood, including circular-sawing and scroll-sawing and turning. The Mechanical Drawing will include practice in sketching and in making drawings to scale, in plan, elevation and section from copy.

The work in Industrial Drawing is as follows: *First Term*—Outline drawing from object, such as cylinders, cones, vases and such common objects as illustrate the circle seen obliquely; the drawing of cubes, of square, triangular and hexagonal prisms, crosses, skeleton cubes, etc. *Second Term*—The drawing of objects in Light and Shade. Objects similar to the above will be drawn and shaded, using the crayon and stump, and afterward charcoal, sepia, neutral tint, India ink, etc. *Third Term*—Shading will be continued during this term.

Applicants for admission to the Preparatory Class must be fifteen years of age. They must pass a satisfactory examination in Arithmetic, Geography, English Grammar, Reading, Spelling and Writing. The examination must show a good knowledge of these elementary branches as taught in the common schools.

Arrangements have been made for holding examinations for admission to the Preparatory Class in the several counties of the State under the direction of the County Superintendents. Applications for examination should be made to the President of the University, or to the Professor in charge of the class, Lafayette, Indiana. For fuller directions, see page 68.

Applicants from other schools should bring certificates both as to scholarship and deportment.

ADVANTAGES.

LOCATION, GROUNDS AND BUILDINGS.

Purdue University is located about one mile west of the city of Lafayette and adjacent to the village of Chauncey. The grounds are over one hundred feet above the high water mark of the Wabash River, and the buildings command a fine view of the city, the valley, and the surrounding country. Lafayette is situated at the intersection of four railroad lines, extending respectively from Cincinnati and Indianapolis to Chicago, from Toledo to St. Louis, from Louisville, Ky., to Chicago, and from Sandusky, Ohio, to Bloomington, Ill. These roads give the University direct railroad connection with all parts of the State.

The campus and gardens contain twenty acres, and are beautifully laid out with walks and drives.

There are six large college buildings, viz : (1) The University Hall, containing the chapel, two society halls, museums, library, recitation rooms, and the Zoölogical and Botanical Laboratories. (2) A boys' dormitory, with accommodations for ninety students. (3) A building containing a young ladies' dormitory, the dining-hall, and the Art Department. (4) A Chemical and Physical Laboratory. (5) Agricultural Hall, containing recitation rooms, an agricultural museum, and the agricultural experiment laboratories. (6) A Mechanical Laboratory, including machine shop, forge shop, foundry, wood-working shop, and Testing Laboratory, with commodious draughting and recitation rooms.

Besides these there are several other buildings, including a boiler and gas house, military hall, a greenhouse, and several farm buildings.

LIBRARY.

The Library occupies a commodious and well-lighted room, 40 by 26 feet, appropriately fitted and furnished for quiet study and investigation. It contains a valuable collection of books of reference in each department and a large number of miscellaneous works of standard value. The number of volumes in the Library, exclusive of duplicates, pamphlets, and unbound works, is 4,000.

The Reading-room is in the adjoining room, 40 by 26 feet, formerly known as the Botanical Laboratory. It is abundantly furnished with encyclopedias, dictionaries, and many other books for reference, and with most of the literary and scientific journals and periodicals of the day, freely accessible to all for reading. These are as follows:

Agricultural Gazette, Agricultural Science, American Agriculturist, American Bee Journal, American Dairyman, American Florist, American Grange Bulletin, American History Magazine of, American Journal of Science, American Machinist, American Microscopical Journal, American Naturalist, American Railroad and Engineering Journal, Art Amateur, Art Interchange, Art Magazine of, Atlantic Monthly, Blacksmith and Wheelwright, Botanical Gazette, Breeders' Gazette, Canadian Entomologist, The Century, Chemical News, Country Gentleman, Decorator and Furnisher, Drainage and Farm Journal, Fortnightly Review, The Forum, Education, Engineering, Gardener's Monthly, Harper's Monthly and Weekly, Indiana Farmer, Journal of Royal Microscopical Society, Locomotive, Mechanics, The Microscope, Millstone and the Corn Miller, The Nation, National Live Stock Journal, Nature, New England Farmer, New England Journal of Education, New York Weekly Tribune, Nineteenth Century, North American Review, Patent Office Gazette, Political Science Quarterly, Popular Science Monthly, Poultry World, Princeton Review, Science, Scientific American and Supplement, Watchman, Western Manufacturer, and several daily papers.

To these have recently been added the following pharmaceutical periodicals:

The American Druggist, The Analyst (Eng.), American Journal of Pharmacy, The Druggists' Circular, The Chemist and Druggist (Lond.), Indiana Pharmacist, National Druggist, Pharmaceutical Record, and Western Druggist.

SOCIETIES.

Four literary societies are open to students—The Irving, the Philalethean, the Carlyle and the Emersonian; the first, third and fourth for young men, the second for young women. The exercises consist principally of essays, declamations, debates, and orations, and are an efficient means of improvement in writing and speaking. The college societies have commodious halls, neatly carpeted and furnished.

Besides these there is a well organized Scientific Society composed of professors and students, devoted to the independent study of scientific subjects; a Young Farmers' Club and a Pharmaceutical Society which discuss subjects connected with their work.

RELIGIOUS EXERCISES.

All students are required to attend morning prayers in Purdue Chapel, daily, at 10:15 A. M., except Saturday and Sunday.

Suitable exercises are held in Purdue Chapel every Sunday afternoon. Students on the college grounds, and those boarding in Chauncey, are expected to attend. The exercise is entirely unsectarian in its character, consisting of a sermon, or a lecture upon some moral or religious topic, together with prayer, Bible reading, and singing. This service is conducted by the members of the Faculty, or by persons who may be invited to do so by the President.

A branch of the Young Men's Christian Association was organized by the students in 1880, and it has held regular meetings each week during the past year.

The following is a list of Sunday Chapel Lectures from April 10, 1887, to April 8, 1888:

1887.

April 10.	"Bible Literature"	Prof. M. B. Anderson.
" 17.	"Evolution"	Prof. D. W. Dennis.
" 24.	"Truth"	Dr. A. A. Marine.

May	1.	"Value for Value"	Prof. J. A. Zeller.
"	8.	"Plato"	Prof. J. B. Roberts.
"	15.	"Dr. Arnold and the Rugby School"	Theodore L. Sewall.
"	22.	"Man is the Image of God"	Rev. E. B. Bary.
June	5.	Baccalaureate Address	Rev. J. A. Rondthaler.
Sept.	18.	"The Uses of Biography"	(Mrs.) Ella L. Swift.
"	25.	"Christianity in the U. S. Constitution"	Rev. Alex. Blackburn.
Oct.	3.	"Growth"	Emma Mont. McRae.
"	9.	"Thomas Carlyle"	Prof. S. Coulter.
"	16.	"Incentives"	Rev. Frost Craft.
"	23.	"The World's Great Schools and School Masters."	Hon. B. Wilson Smith.
"	30.	"Christ as a Man"	Rev. E. B. Bary.
Nov.	6.	"Leadership"	Prof. O. J. Craig.
"	19.	"Horace Mann"	Hon. W. A. Bell.
"	26.	Meeting of Young Men's Christian Association.	
Dec.	11.	"The Men to Whom Revelations Come"	Rev. Edw. Barr.

1888.

Jan.	14.	"The Progress of the Century"	Prof. J. A. Woodburn,
"	22.	"Christianity and Civilization"	Rev. E. B. Bary.
"	29.	"Beaconsfield—His Times"	Hon. Jno. L. Griffith.
Feb.	5.	Meeting of the Young Men's Christian Association.	
"	12.	"Abraham Lincoln"	Rev. W. P. Kane.
"	19.	"Is it Unreasonable to Believe in the Christian Religion?"	Prof. L. S. Thompson.
"	26.	"Dante's Divine Comedy"	Emma Mont. McRae.
Mar.	11.	Meeting of the Young Men's Christian Association.	
"	18.	"The Manliness of Christ"	Rev. D. P. Putnam.
April	1.	"The Universal Duty of Labor"	Rev. W. B. Riley.
"	8.	"Some Small Things Which Produce Great Results"	Prof. J. C. Rollins.

EXPENSES, BOARDING, ETC.

EXPENSES.

Purdue University is a State Institution, and the tuition is therefore *free* to students who are residents* of the State of Indiana. The expense for board and for incidentals incurred in attending Purdue University are very low.

The charges for the year 1888–89 will be as follows:

COLLEGE EXPENSES.

Entrance fee in College, per year	$5 00
Entrance fee in Preparatory Department, per term, $2; per year	5 00
Incidental fee in departments, per term	3 00
Laboratory and library fees, per term, Freshman, $2; Sophomore, $3; Juniors and Seniors	5 00

Laboratory fees cover expenses for drawing-paper, all shop material, chemicals, and all other laboratory material used by students, and for the use of microscopes and other apparatus.

Incidental and laboratory fees for irregular and special students according to work done and material used.

OUTSIDE EXPENSES.

Table board per week,	Dining Hall†	2 50
	Club	2 00
Room rent, heat and light, per week		50
Washing, per dozen, not exceeding		75

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*Persons residing outside of the State of Indiana, who desire to attend Purdue University, will apply to the President of the Faculty for information concerning terms, etc.

†The Boarding-house is kept by Mrs. A. R. Joy, to whom all bills are paid.

From the above it is seen that a student's average expenses for thirty-eight weeks in the College, *except for books and drawing instruments*, will be as follows:

Entrance and incidental fees	$14 00
Laboratory fees, average	11 25
Table board (averaging $2.25 per week)	85 50
Room, heat and light	19 00
Washing, about	12 00
Total for the year, about	$141 75

All bills must be paid *in advance*, entrance and incidental fees at the beginning of the term or year, and room rent at the beginning of each term. A *pro rata* part of all incidental fees paid in advance will be refunded to students who are withdrawn on account of sickness.

Students taking a course in Chemistry are required to deposit with the Registrar five dollars a term in advance to cover breakage and use of apparatus. The money that is not used will be refunded at the close of the term.

YOUNG MEN'S DORMITORY.

The Young Men's Dormitory is reserved for the use of appointed students. Rooms will be assigned in the order of application therefor. No outside rooms will hereafter be furnished to students at the expense of the University. Appointed students temporarily occupying rooms outside may move into the Dormitory as soon as a vacancy occurs.

The young men occupying rooms in the Dormitory are required to keep them in good order and to observe all other rules governing their occupancy. A failure to observe such rules, or other disorderly conduct, forfeits a student's right to a room. The occupants of rooms are held responsible for all injury to the same or to furniture and fixtures therein, and all gas burned after 10 o'clock is charged extra. As a condition of occupying a room, a student must deposit with the Registrar five dollars, as a fund to pay for breakage, extra gas and other fines. When he withdraws from the Dormitory, or at the close of the year, so much of this money as is not required to pay charges will be refunded. Members of the Preparatory and Freshman classes who occupy the Dormitory are not allowed to visit the city of Lafayette in the evening, except by permission.

Each suite of rooms in the Dormitory is furnished with bedsteads, wash-stands and sets, and tables and chairs. Mattresses and bedding, towels, soap, mirrors, brooms, etc., are furnished by students. Young men occupying rooms may procure table-board at the Boarding-house or elsewhere, as they may prefer, but self-boarding in the Dormitory is not allowed. Boarders will not be received at the Boarding-house for less than a term.

THE LADIES' HALL.

The young ladies occupying rooms in the Ladies' Hall are required to keep them in good order and to observe all rules governing their occupancy. Gas consumed after 10 o'clock, and the cleaning of rooms while occupied, will be charged extra. The rooms are neatly carpeted, and are furnished with bedsteads and mattresses, washstands and sets, tables and chairs. The occupants furnish bedding, towels, mirrors, etc. The young ladies who occupy rooms are under the personal supervision of a lady member of the Faculty. Only twenty young ladies can be accommodated with rooms.

PRIVATE BOARD.

Students who may not wish to board in the University can obtain board in private families in Chauncey at reasonable rates, but students will not be permitted to board at places not approved by the Faculty. Good accommodations for self-boarding, or for club-boarding, can also be secured in Chauncey, and the cost of board, not including room, may thus be reduced to about $2 or $2.25 per week.

STUDENTS APPOINTED BY COUNTY COMMISSIONERS.

A law passed March 12, 1877, gives the Board of Commissioners of each county of Indiana the authority to appoint two students, residents of the county, to Purdue University, and the students thus appointed are exempt from the payment of entrance and incidental fees, and the regular charges for room, heat and light. They must, however, pay the usual laboratory fee for chemicals and other materials, and for the use of instruments, machinery, etc. The reduction thus provided for amounts to $33 a year, thus reducing the necessary average expenses of a student to about $100 per annum. Sixty-nine of the students in attendance the present year were appointed. The students appointed must reside in the county in which the appointment is made.

Students who desire to enter Purdue University from a county whose quota of appointed students is already full are reminded that no tuition fee is charged, and that they can enter the University by the payment of the incidental fees.

Such persons should not wait until a vacancy occurs, but should enter whenever they are prepared to do so, and immediately file their application, asking for a county appointment whenever a vacancy shall occur.

WORK.

On the Farm.—The farm is cultivated with improved implements, and hence there is but little work which can be done by students. The teams must be handled and cared for by regular hands. About the only assistance which students can render is in harvesting the fall crops and in the care of stock; and this work, as well as that needed on the University grounds, in the nursery, orchard and greenhouse, and in the experimental field, is chiefly done by *the students taking the Agricultural Course.* The amount of other work to be done by the students is very limited and no one should come to the University depending upon work, if he has not previously made a successful application for it.

In the Shops.—On Saturdays, and at other convenient times, opportunity will be given to those who are proficient in their class work to add to their experience by making repairs, and in the construction of tools and appliances. For such work, students receive compensation varying with the extent of the time covered by their shop experience.

REGISTER OF STUDENTS, 1887-8.

COLLEGE.

POST-GRADUATES.

RESIDENT.

Name.	Where Graduated.
Mrs. Lucretia Armen, A. B. Mathematics.	Hartsv. College.
Annie Embree Baker, B. S. Literature, History, Industrial Art. Candidate for the Degree of M. S.	Purdue, '86.
William Brady, B. S. Chemistry, German. Candidate for the Degree of M. S.	Purdue, '87.
Harry Thomas Cory, B. M. E. Civil Engineering.	Purdue, '87.
Alfred E. Jones, B. A. Mechanics and Mechanical Drawing.	Cook Co. Norm.,'84.
Lydia Agnes Mitchell, A. B. Domestic Economy.	Vassar, '84.
Eva Wilson Smith, B. S. Literature, History, Political Economy, Domestic Economy. Candidate for the Degree of M. S.	Purdue, '81.
Lillian Gray Smith, B. S. Literature, History, Political Economy, Domestic Economy. Candidate for the Degree of M. S.	Purdue, '80.
Ida Virginia Smith, B. S Domestic Economy.	Purdue, '83.
Mrs. Mary S. Yount, B. S. Domestic Economy.	DePauw Univ., '74.

Total, 10.

*NON-RESIDENT.**

Bessie Baker, B. S. Literature, History, Science. Candidate for the Degree of M. S.	Purdue, '86.
Henry Abraham Beck, B. S. Literature, History, Political Economy. Candidate for the Degree of M. S.	Purdue, '82.
Ernest Vernon Claypoöl, B. S. Literature, History. Candidate for the Degree of M. S.	Purdue, '86.
Ava C. Cory, B. S. Psychology. History, Political Economy. Candidate for the Degree of M. S.	Purdue. '83.
Maggie J. Erisman, B. S Literature, History, Political Economy. Candidate for the Degree of M. S.	Purdue, '80.
Maude Richmond Henderson, B. S. Literature, History, Political Economy. Candidate for the Degree of M. S.	Purdue, '86.
Eli K. Hoober, B. S. Literature, History, Political Economy. Candidate for the Degree of M. S.	Purdue, '85.
Elwood Mead, B. S. Civil Engineering. Candidate for the Degree of M. S.	Purdue, '82.
Eulora Miller, B. S Literature, History, Political Economy. Candidate for the Degree of M. S.	Purdue, '78.
Charles Fremont Moore, B. S. Literature, History, Political Economy. Candidate for the Degree of M. S.	Purdue, '87.
Walter Stevens Ratliff. Science. Candidate for the Degree of M. S	Purdue, '83.
Flora Fannie Roberts, B. S. Literature, History, Political Economy. Candidate for the Degree of M. S.	Purdue, '87.
Albert King Warren, B. S. Civil Engineering. Candidate for the Degree of M. S.	Purdue, '81.
Henry Heath Vinton Literature, Political Economy. Candidate for the Degree of M. S.	Purdue, '85.
Samuel Turner Virden, B. S. Literature, Political Economy, Agriculture. Candidate for the Degree of M.S.	Purdue, '86.
Kate Wentz, B. S. Literature, History, Political Economy. Candidate for the Degree of M. S.	Purdue, '87.

Total, 16.

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* Non-resident students are taking a regular course of study under the direction of the Faculty.

SENIOR CLASS.

Mary Catherine Barr	I.[*]	Lafayette.
Lemuel Stearns Boggs	M	Chauncey.
Moses Taylor Boggs	S	Chauncey.
Henry Luke Bolley	S	Holman.
Jessie Born	I.	Lafayette.
Frank Webster Brady	M	Wellsburg, W. Va.
John Breckenridge Burris	S	Cloverdale.
Mary Elizabeth Cooper	I	Lafayette.
Arthur Goss	A	Vincennes.
Harry Land	M	Richmond.
Ransom Tedrow Lewis	M	Indianapolis.
William James Lutz	S	Wea.
Joseph Franklin McBeth	M	Wea.
Charles Milton Mock	M	Rushville.
John O'Gara	M	Lafayette.
William Henry Olds	M	Fort Wayne.
Philip Thurber Potter	M	Lafayette.
Sadie Raub	I.	Chauncey.
James C. Ross	I.	Raub.
Albert Scheible	M	Chicago, Ill.
Carrie Ernestine Shoemaker	S.	Lafayette.
James Samuel Shortle	S.	Goldsmith.
William Taylor Thayer, Jr	M	Charleston, W. Va.
Ella Wallace	I.	Lafayette.
John Jenkins Wilmore	M	Trenton.
William Sleeper Windle	S	Farmers' Institute.

Total, 26.

JUNIOR CLASS.

Walter Glen Allen	M	Itasca, Ill.
Anna Pencelia Anderson	I.	Wea.
Archibald Warnock Blair	M	Princeton.
Handly Caraway	S	Sugar Creek.
Paul Henry Chapin	M	Indianapolis.
Clarence Linus Cory	M	Chauncey.

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[*] Students in the School of Science are designated by S; in the School of Agriculture and Horticulture by A; in the School of Mechanics and Engineering by M; in the School of Civil Engineering by C; and the School of Industrial Art by I.

Clifford Crowell	M	Portland.
Charles Luther Davidson	M	Hazleton.
Bernhardt Herman Dorner	S	Frankfort.
Jasper Marion Dresser, Jr.	S	Lafayette.
William Laubach Horn	M	Lafayette.
Winthrop Keith Howe	M	Washingt'n Heights, Ill.
James Francis Hutchison	M	Chicago, Ill.
Oliver Morton Jones	A	Rob Roy.
Frank Eugene King	M	Avilla.
Morris Levistein	M	Spencer.
Dumont Lotz	S	Portland.
Abram A. McClamrock	A	Frankfort.
Benjamin Franklin McCoy	A	Monroe City.
John Tinney McCutcheon	I	Lafayette.
Fannie Georgiana McGrath	I	Lafayette.
Charles Edward Middleton	M	Madison.
Charles Warner Pifer	M	Lafayette.
Frank Lewis Rainey	S	Lafayette.
Daniel Royse	M	Chauncey.
Samuel Nourse Saltmarsh	A	Sunman.
John Frederick Schnaible	M	Lafayette.
George Harvey Searcy	S	Patriot.
Jacob Warne Sholl	M	Hobart.
William Leon Stumph	M	Indianapolis.
William Heath Wells	M	Lafayette.

Total, 31.

SOPHOMORE CLASS.

Lewis Ahrens	S	Attica.
Frederick Paul Anderson	M	South Bend.
Kate Baugh	S	Farmers' Institute.
Nellie Berkey	I	Chauncey.
Lue Lawrence Boggs	I	Chauncey.
Charles Newton Branch	S	Perkinsville.
Laura Burton	I	Dayton.
Susie Virginia Dasher	I	Delphi.
Daniel L. Dorsey	M	Indianapolis.
William Arthur Dresser	M	Lafayette.

Eva Lavina Ennis	S	Battle Ground.
Willard Clinton Fitzer	S	Montez.
Nellie Floyd	I	St. Paul.
Harry A. Gilmore	M	Jeffersonville.
Helen Golden	S	Lawrence, Mass.
Katherine Eliza Golden	S	Lawrence, Mass.
Charles Gough	S	Muncie.
Alma Herkless	I	Knightstown.
James David Hoffman	M	Auburn.
Walter Scott Holmes	M	Indianapolis.
Lillian Howard	I.	Lafayette.
Perry Culver Kirtley.	M	Chase.
Harry Knight.	S.	Lafayette.
Richard Kumler.	S.	Lafayette.
Cora Lacy	I.	Perryville.
David Robert Lewis	C	Greensburg.
James Henry Little	A	Lowell.
Charles Elton McClure	S.	Newtown.
Dana Ward Moore	M	Lafayette.
John Eli Moore	C	Coesse.
Harry Everett Pierce.	C	Pine Village.
William Ransdell.	C	Franklin.
Henrietta Raub.	I.	South Raub.
Charles Russ Richards.	C	Clark's Hill.
Mina Estella Robinson	I.	Orange.
Robert Lee Ruley.	S.	Janesboro.
Effie Maud Somerville	S.	Lafayette.
Ulysses Morton Stewart	A	Patriot.
Henry Eleazer Vanderlip	C	Elkhart.
Letitia Welch	I.	Chauncey.
Harry Spelter White	M	Indianapolis.
Stephen Grant Wright	S.	Perryville.

Total, 42.

FRESHMAN CLASS.

Noah Adair	S	Perkinsville.
Olla Alkire.	I.	Brookston.
Amoranda Allison.	S	Chauncey.
George Thomas Ashley	M	Indianapolis.

Samuel Beard	S	Burton.
Emma Berry	S	Logansport.
Arvill Wayne Bitting	A	Bourbon.
Thomas Enoch Brown	S	Burton.
William Dale Browning	M	Lafayette.
James Dennis Carson	M	Mt. Carmel.
Joseph Cochran Callahan	S	Lafayette.
Clarence Davidson	M	Hazleton.
Frederic Emory Davis	M	Lafayette.
Edgar Morton Dillman	M	Waynesburg.
Charles Edward Downton	M	Aurora.
Dean Howard Dresser	S	Lafayette.
Louis Morrison Dunlap	M	Perrysville.
Eugene Edgar Earhart	S	Lafayette.
Elisha E. Ellis	S	Farmersville.
Addie Mercella Finch	I.	Templeton.
Finis Fouts	A	Deer Creek.
William Gregory	M	Zionsville.
Sina Martin Haller	S	Chauncey.
Mattie Louise Haywood	I.	Romney.
Mary Frances Heath	I.	Lafayette.
Harry Hicks	M	North Vernon.
Alva Seward Hillis	M	Limedale.
Francis Marion Hougham	S	Perkinsville.
Edith Heath Hull	S	Lafayette.
William Wade Ives	A	Francesville.
Ira Jaques	C	Whitcomb.
Mamie Jones	S	Chauncey.
William James Jones, Jr.	S	Woodland, Ill.
Walter Kerr	M	Aurora.
William Kirk	M	Madison.
William Kirkpatrick	M	Sugar Grove.
Harry Ivan Lahr	M	Lafayette.
Samuel Oyler Lindsay	M	Lafayette.
Anne Lutz	S	Wea.
Nettie May Lutz	I	Wea.
Cora McKay	S	Waynesville, O.
George John McGrath	M	Lafayette.

Ida Evalyn McKinnis	S	Otterbein.
Tillie Magovern	S	Lafayette.
Edwin Marshall	C	Wawaka.
Mabel Vaughn Meek	S	Spring Hill.
Arthur Graydon Moody	S	Indianapolis.
Wilbur Nathaniel Morrill	M	New Albany.
Belle Murdock	I	Wea.
Charles Arthur Murray	M	Chauncey.
John Stanton Neese	A	Perkinsville.
Roy Parker	C	Meridian, Miss.
John Wesley Parker	C	Elkhart Mines, Md.
Doris Rena Petitgean	S	Colburn.
William R. Quick	S	Carmel.
Mamie Ruth Raub	I	South Raub.
William Clifford Reid	C	Warsaw.
Joseph Ross	S	Lafayette.
Harvey Thomas Ruch	S	Elston.
Belle Salinger	S	Lafayette.
Harry Scudder	M	Greenwood.
Charles Lewis Searcy	C	Patriot.
Albert Sedgwick	C	South Bend.
Enos Larkin Shaw	C	Cowan.
George Alexander Skinner	M	Romney.
Richard Addison Smart	M	Lafayette.
Marion McDonald Smith	S	Lanesville.
Frederick William Snider	S	Chauncey.
Walter Irvin Snider	S	Chauncey.
Earl Eustace Stafford	S	Millville.
Agnes Eugenie Vater	S	Lafayette.
Edwin James Vawter	M	Santa Monica, Cal.
Edward Charles Wagner	S	Lafayette.
Elmer Ritchey Waters	M	Chauncey.
Carrie V. Wells	I	Seymour.
Edward Clarence Wells	M	Vallonia.
James Henry Wells	M	Lafayette.
John Franklin Yost	S	Pettit.

Total, 78.

IRREGULAR AND SPECIAL STUDENTS.

Julia Lillian Austin Assaying.	Lafayette.
William H. Bass Mechanics.	Indianapolis.
Mary Beach Domestic Economy.	Lafayette.
Mrs. Mary Beasley Domestic Economy.	Lafayette.
Mrs. Mary Bunker Wood Carving.	Lafayette.
Nellie K. Claypole Wood Carving.	Goodland.
Emma Dresser Domestic Economy.	Lafayette.
Corneal Huntington Wood Carving.	Philadelphia, Pa.
Lewis W. Kelsey Mechanical Drawing.	Valparaiso.
Ruth Loverny Domestic Economy.	Buffalo.
Clara George Morton Wood Carving, Elocution, Domestic Economy.	Memphis, Tenn.
Frances Louise Murray English Literature, Domestic Economy.	Chauncey.
Mrs. Adele Ingersoll Industrial Art.	Lafayette.
Mrs. Lena Price Industrial Art.	Lafayette.
Charles A. Remster History, Chemistry, Literature.	Veedersburg.
Albert Bruce Rogers History, Chemistry, Industrial Art.	Lafayette.
Bertha Rohm Domestic Economy.	Davenport, Ia.
Alma Rena Rundle English Literature, Drawing, Grammar, Mathematics.	Merom.

Benaldine Smith. . . . . Lafayette.
Domestic Economy.
Helen Colfax Smith . . . . Lafayette.
Geometry, English Literature, Domestic Economy.
Mrs. Theodosia Stiles . . . . Chicago, Ill.
Domestic Economy.
Henrietta Stoeckmann . . . . Ames, Ia.
Domestic Economy.
Alva Courtney Washburn . . . . . . Lafayette.
Chemistry, Desc. Geometry, Field Engineering.
Mrs. Amelia Weir . . . . Ottawa, Ont.
Wood Carving.

Total, 24.

SCHOOL OF PHARMACY.

SENIORS.

Peter Herman Fetters. . . . . Goshen.
Samuel Kennedy. . . . . Shelbyville.
George C. Morrison . . . . Shelbyville.
Hal Davenport Ridgely . . . . Indianapolis.
William Harrison Studley . . . . . Appleton, Wis.
William Hunter Vawter. . . . . . . Lafayette.

Total, 6.

JUNIORS.

Elden Beazley. . . . . Union.
Aden L. Cavins . . . . Bloomfield.
Charles W. Clements . . . . Peru.
George David Cook . . . . Lafayette.
Edward Clement Davidson . . . . . . Lafayette.
John E. Dunlavy . . . . Fillmore.
Jacob Richard Francis. . . . . Halstead, Kan.
Harry Edwin Glick . . . . Lafayette.
Henry Herschel Harris . . . . Boswell.

Luther Jewett Hord	Shelbyville.
Henry Jacob Lahr	Bippus.
Dall L. Mabie	Warsaw.
Charles Edgar Neidig	Goshen.
Merit O. Post	Lowell.
Fred Porter Pyke	Lafayette.
Charles William Shafer	Morocco.
George Spitzer	Bluffton.
James E. Sproule	Indianapolis.
John B. Stalcup	Bloomfield.
Cortice M. Warner	Edinburg.
Don Carlos Whitehead	Maumee, O.
Howard Arthur Williams	Goodland.
	Total, 22.

SPECIAL SCHOOL OF VETERINARY SCIENCE.

Reed C. Alkire	Brookston.
George W. Ayers	Gridley.
Will Irvin Broaddus	Connersville.
Charles Dale Florea	Harrisburg.
Charles Clark Hooker	Dana.
Lewis King Irwin	Camargo, Ill.
Lewis Wilbert Kelsey	Larwill.
Dewey Kerns	Toronto.
M. Peirce Kirkpatrick	Pierceton.
John W. Mullen	Lafayette.
James Pliney Norton	Norwalk, O.
Charles William Ross	Lafayette.
George F. Seeger, Jr	Lafayette.
Charles G. Wiseman	Camargo, Ill.
	Total, 14.

PREPARATORY CLASS.

REGULAR.

Stephen Elmer Aiken	Chauncey.
William Beecher Anderson	Otwell.
Arthur Avis	Tipton.
Harry Baughman	Lowell.
Alonzo Bittle	Whitlock.
Charles Madison Bivins	Bedford.
Harry Matthew Bonnell	Lebanon.
Carrie Esther Boyer	Lafayette.
Victor Browning	Lafayette.
Maud Alice Burroughs	Linnwood.
Robert Miller Campbell	South Raub.
Harry Cason	Burton.
Albert Henry Caulkins	Lafayette.
Clarence Prentice Chenoweth	Lafayette.
Margaret Olive Cooper	Battle Ground.
Clarissa Cox	Culver's.
Maggie Cox	Culver's.
George Thomas Crapp	Lafayette.
Frank Dickey	Lowell.
Fred Dorner	Lafayette.
George Driscol	Burton.
Daisy Harriet Finch	Templeton.
Charles E. Fish	Lebanon.
Wallace Walter Ford	Rich Valley.
Ira Charles Frankenfield	Dayton.
William Milligan Franklin	Spencer.
James Scott Fullenwider	Brown's Valley.
Hogan Gains	Landess.
Henry E. Gale	Lafayette.
John Gibney	Wabash.
Rufus Albert Gilbert	Jeffersonville.
Alvin Otto Greeson	Alto.
John Francis Harbert	Macon, Ill.

William Jehu Hart	Deforest.
Icy Dora Harvey	Ash Grove.
Adam John Herzog.	Lafayette.
Lemon Edison Hine	Sedan.
Daniel Bruce Hoffman.	Monitor.
Jesse Augusta Jack	Lafayette.
Daphna Kate Kieffer	Lafayette.
Joe Kurtz	Princeton.
Edna Peck Lane	Lafayette.
Mary Belle McIlvaine	Chase.
Anna Leona Miller	Lafayette.
John Robert Mitchell	Linwood.
Wilfred James Morgan	Chesterton.
Iva Etta Munger	Lafayette.
Jennie Elisabeth Newton.	Chauncey.
Roswell S. Newton	Shadeland.
George Henry Oilar.	Chauncey.
Sallie O. Oilar	Battle Ground.
George Edgar Parks.	Bedford.
Thomas Joseph Phillips	Farmersville.
Hannah Gertrude Powers	Chauncey.
Antonia Opal Rhyn	Lafayette.
George Ninian Ridgely	Sugar Grove.
Harvey Robinson	Rensselaer.
Edward V. Severson	Lafayette.
Morton Skinner	Stockwell.
Charles Slaughter	Lafayette.
Ella Slaughter	Lafayette.
James Everett Smith	Lafayette.
Charles Thomas Stallard	Chauncey.
Orville T. Storms	Linton.
Lillie A. Taylor	Sunman.
William Thompson	Arcana.
Lizzie Ann Wagoner	Pyrmont.
Jennie Wilson Wallace	Lafayette.
Esther Welch	Holder, Ill.
Fred Rudolph Widmer	Lafayette.
Laura May Wilson	Stockwell.

Arthur Christopher Wright	Marion.
Aaron Yost	Pettit.
William Martin Young	Lafayette.

Total, 74.

IRREGULAR.

Luther Chapin Bailey	Boswell.
Esther Jennie Cloyd	Lafayette.
Charles Cottingham	Independence.
Ida Belle Coulter	Mulberry.
Jacob Burton Cunningham	Lafayette.
Burson Gideon DeHart	Lafayette.
Ada Landor Evans	Door Village.
Carrie L. Gaylord	Burton.
Fred W. Gockel	Patriot.
Musetta Halstead	Kirkpatrick.
Edward B. Lewis	DeForrest.
Sarah Carrie Livengood	Lafayette.
Walter G. Muessel	South Bend.
Anna L. Miller	Farmers' Institute.
Anna Morin	Kirkpatrick.
Hugh H. Pierce	Lafayette.
Cora Gertrude Read	Lafayette.
Reuben Robinson	Chauncey.
Emily Elizabeth Sparks	Lafayette.
Clara Belle Stingle	Lafayette.
Mary Lizzie Storms	Stockwell.
Harry Adolphus Tansey	Arcanum, Ohio.
Verna Williams	Stockwell.
Flora May Wilson	Farmers' Institute.
William G. Young	Ridgeway.

Total, 25.

SUMMARY.

COLLEGE.

Post-Graduates	26	
Seniors	26	
Juniors	31	
Sophomores	42	
Freshmen	78	
Irregular and Special	24	
School of Pharmacy	28	
School of Veterinary Science	14	
	—	269

PREPARATORY CLASS.

Regular	74	
Irregular	25	
	—	99
Total		368

COUNTIES REPRESENTED.

Names of counties represented by one or more students :

Allen,
Bartholomew,
Benton,
Boone,
Carroll,
Cass,
Clark,
Clinton,
Dearborn,
Decatur,
DeKalb,
Delaware,
Elkhart,
Fayette,
Floyd,
Franklin,
Fountain,
Gibson,
Grant,
Greene,
Hamilton,
Hancock,
Harrison,
Hendricks,
Henry,
Howard,
Huntington,
Jackson,
Jasper,
Jay,
Jefferson,
Jennings,
Johnson,
Knox,
Kosciusko,
Lake,
LaPorte,
Lawrence,
Madison,
Marion,
Marshall,
Miami,
Montgomery,
Newton,
Noble,
Owen,
Pike,
Porter,
Posey,
Pulaski,
Putnam,
Randolph,
Ripley,
Rush,
St. Joseph,
Shelby,
Sullivan,
Switzerland,
Tippecanoe,
Tipton,
Vermillion,
Wabash,
Warren,
Warrick,
Wayne,
Wells,
White,
Whitley.

Total, 68.

STATES REPRESENTED.

The States represented in the Institution during the present year are, as follows : California, Illinois, Indiana, Iowa, Kansas, Maryland, Massachusetts, Mississippi, Ohio, Ontario, Pennsylvania, Tennessee and West Virginia. Total, 13.

COMMISSIONED HIGH SCHOOLS.

FORM OF CERTIFICATE.

STATE OF INDIANA.

HIGH SCHOOL COMMISSION.

This certifies that . . . . . . , Superintendent of the Graded Schools of the . . . . , is authorized by the State Board of Education to certify students of the High School Department of said schools for admission to the Indiana University, Purdue University, and the State Normal School, in accordance with the requirements of the said several institutions.

Department of
Public Instruction.
Indianapolis, ... *18* . .

For the State Board of Education.

SEAL.

. . . . President.

. . . . Secretary.

LIST OF COMMISSIONED HIGH SCHOOLS.

Name of City or Town.	Name of Superintendent.
AMBOY	J. R. Sherrick.
ANDERSON	A. J. Dipboye.
ATTICA	Samuel E. Harwood.
AUBURN	B. B. Harrison.
AURORA	F. D. Churchill.
BEDFORD	Frank P. Smith.
BLOOMFIELD	C. Danielson.
BLOOMINGTON	Margaret McCalla.

COMMISSIONED HIGH SCHOOLS—Continued.

Name of City or Town.	Name of Superintendent.
BLUFFTON	P. A. Allen.
BOONVILLE	Charles E. Clarke.
BRAZIL	John C. Gregg.
BROOKVILLE.	C. W. McClure.
BROWNSTOWN	C. L. Hottle.
BUTLER	E. M. Teeple.
CAMBRIDGE CITY.	W. F. L. Sanders.
COLUMBIA CITY	Wallace C. Palmer.
COLUMBUS.	Andrew Graham.
CONNERSVILLE.	D. Eckley Hunter.
CRAWFORDSVILLE	Temple H. Dunn.
CROWN POINT	George Voorhees.
COVINGTON	V. E. Livengood.
DANVILLE	M. J. Mallory.
DECATUR	C. A. Dugan.
DELPHI	A. W. Dunkle.
DUBLIN	T. A. Mott
EDINBURG.	W. B. Owen.
ELKHART	D. W. Thomas.
EVANSVILLE	J. W. Layne.
FRANKFORT	E. E. Griffith.
FRANKLIN.	W. J. Williams.
FORT WAYNE	John S. Irwin.
GARRETT	T. S. Merica.
GOSHEN	W. H. Sims.
GREENCASTLE	R. A. Ogg.
GREENSBURG	Wm. P. Shannon.
HAGERSTOWN	P. V. Voris.
HUNTINGBURG	F. S. Morganthaler.
HUNTINGTON	R. S. Hamilton.
INDIANAPOLIS	Lewis H. Jones.
JEFFERSONVILLE.	R. W. Wood.
KENDALLVILLE	P. D. Creager.
KNIGHTSTOWN	Charles Hewitt.
KOKOMO	Sheridan Cox.
LAFAYETTE	T. J. Merrill.
LAGRANGE	Fred. U. Dewey.
LA GRO	B. T. Wilkie.
LAPORTE	W. N. Hailmann.
LAWRENCEBURG	W. H. Rucker.
LEBANON	J. W. Wiley.
LIBERTY	J. N. Short.

COMMISSIONED HIGH SCHOOLS—Continued.

Name of City or Town.	Name of Superintendent.
LIGONIER	Ambrose Blunt.
LIMA	C. M. Lieb.
LOGANSPORT.	J. C. Black.
MADISON	J. H. Martin.
MARION.	J. K. Waltz.
MARTINSVILLE.	J. R. Starkey.
MISHAWAKA.	B. J. Bogue.
MITCHELL.	Ella E. Manson.
MONTICELLO.	B. F. Moore.
MUNCIE	W. R. Snider.
NEW ALBANY	J. B. Starr.
NEW CASTLE.	W. D. Kerlin.
NEW HARMONY	W. J. McCormick.
NOBLESVILLE	G. F. Kenaston.
NORTH VERNON	C. N. Peaks.
ORLEANS	Richard Park.
OXFORD	A. T. Reid.
PENDLETON	J. D. White.
PERU	G. G. Manning.
PETERSBURG	A. C. Crouch.
PLYMOUTH	Roscoe A. Chase.
PORTLAND	H. W. Bowers.
PRINCETON	A. J. Snoke.
RENSSELAER	F. W. Reubelt.
RICHMOND.	Justin F. Study.
ROCHESTER	James F. Scull.
ROCKPORT	D. H. Kennedy.
ROCKVILLE	Lin H. Hadley.
RUSHVILLE	E. H. Butler.
SALEM	J. M. Bridgman.
SEYMOUR	William S. Wood.
SHELBYVILLE	J. C. Eaglé.
SOUTH BEND	James Dushane.
SPENCER	F. E. Anderson.
SULLIVAN	W. R. Nesbit.
TERRE HAUTE	William H. Wiley.
TIPTON	M. E. Rickoff.
UNION CITY	J. R. Hart.
VALPARAISO	William H. Banta.
VEVAY	W. R. Stratford.
VINCENNES	Edward Taylor.

COMMISSIONED HIGH SCHOOL—Continued.

Name of City or Town.	Name of Superintendent.
Wabash	M. W. Harrison.
Warsaw	T. J. Sanders.
Washington	W. F. Hoffman.
Waterloo	S. B. Griffin.
Williamsport	S. C. Hanson.
Winchester	C. H. Wood.
Worthington	Jennie J. Throop.

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